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POLITICAL DIMENSIONAL COMPLEXITY: ITS PLACE IN A POLITICAL INFORMATION PROCESSING FRAMEWORK, ITS MEASUREMENT AND CORRELATES

BY

© ROBERT JEREMY WILSON

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled POLITICAL DIMENSIONAL COMPLEXITY: ITS PLACE IN A POLITICAL INFORMATION PROCESSING FRAMEWORK, ITS MEASUREMENT AND CORRELATES submitted by ROBERT JEREMY WILSON in partial fulfilment of the requirements for the degree of Master of ARTS

ABSTRACT

The primary purpose of this thesis is to introduce the political dimensional complexity notion. The political dimensional complexity construct helps to explain important aspects of the thinking processes of political man Basically political dimensional complexity is a construct which explains differences in the information intake or selection processes of individuals.

More specifically, three purposes exist. The first is to set out a framework which is descriptive of the way information about political stimuli is processed and these stimuli given the meaning upon which attitudes are based. Through this presentation, we hope to elucidate the place of importance of individual's level of political dimensional complexity. The second purpose is to arrive at valid and practicable measures of the political dimensional complexity construct. The third purpose is to investigate some of the correlates of individual's political dimensional complexity level.

In the first major chapter (Chapter II) we develop a framework which is descriptive of the way political information is processed and judgements, conceptions and attitudes about political stimuli are formed. Through this framework we can show the influences of two stable perceiver characteristics--political dimensional complexity and

political integrative complexity--on the political judgement process.

In Chapter III constructs which measure differences in individuals' political dimensional complexity are developed. Three measures are developed. All can be derived from semantic differential responses. In this chapter an empirical investigation analyzes the semantic differential scores of a small group of subjects. The results assure that suitable criteria indicants are derivable from semantic differential scores and provide some evidence that the measures developed are reliable and valid.

The final chapters undertake to uncover personality, ability, background and behavior correlates of political dimensional complexity. Some correlations can be treated as evidence relevant to validational hypotheses, others are of purely descriptive interest. In a general sense all relations exposed serve to underline the meaningfulness of the construct introduced in the thesis.

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CHAPTER I

INTRODUCTION

It has been accepted that humans are seekers and processors of the information which is relevant to their adaptation. The area of politics is one area in which people select and process information in attempting to adapt and adjust to conditions. This thesis focuses upon the processing of information which precedes one adaptive political act, the act of voting. But it is a thesis which is relevant to the study of political information processing in general.[1]

There has been, since The American Voter at least, a school among voting behavior analysts which has advised such an orientation. As Campbell *et al*. state:

> If we are to understand what leads the voter to his decision at the polls we must know how he sees the things to which this decision relates. In casting a vote the individual acts towards a world of politics in which he perceives the personalities, issues, and the parties and other groupings of a presidential contest. . . . As a result, measuring perceptions and evaluation of the elements of politics is a first charge on our energies in the explanation of the voting act.[2]

But it seems safe to say that this perspective has not had a deep effect on the work of many voting analysts. Attitude has been a favorite explanatory construct of students of voting, but disproportionately small amounts of research energy have been devoted to the task of

ascertaining the informational bases of the attitudes which are studied. A source of inspiration for the present endeavor grows from the conviction that knowledge of vote-relevant attitudes and knowledge of political attitudes in general can be fruitfully advanced by research based in a perspective which sees attitudes towards political stimuli as grounded in structures of information. In this thesis political perception, cognition and information processing will be focused upon in the hope that doing so will help to advance knowledge of the processes whereby individuals structure political reality into the meaningful concepts upon which their attitudes are based. It should be noted at the outset that it is the structure of this meaning rather than its content which receives our attention here.

The thesis centers around what is, in essense, a decision making framework which explains the gathering and processing of information preceding the political (voting) decision. Michael Shapiro in his paper, "Rational Political Man: A Synthesis of Economic and Social-Psychological Perspectives," reviews the differing emphases of the economic and social psychological decision-making models before attempting to integrate the approaches into a rational choice model of the voting decision.[3] Economic utility models are seen as premised on actors' use of deductive rationality, or simply stated, on actors' tendencies to choose those actions which they believe consistent with desired goals.[4] Social psychological models, on the other hand, focus on the inductive aspects of rationality. These models ". . . manifest more concern with individual variation in the process of obtaining and interpreting information as well as with the way in which the information is formally

structured to yield decision criterion."[5]

This study is based, in its emphasis, in such a social-psychological or individual difference orientation. It begins by developing a framework which is descriptive of the way political or election campaign information is processed and structured in idiosyncratic fashion by different individuals. The remainder of the thesis builds on this framework.

The researcher's orientation is, of course, preceded by the (more basic) assumption that individuals do exhibit meaningful consistent differences in the ways they carry out the processing of information relevant to their adaptation in general, and relevant to their political adaptation in particular. This assumption, we think, is valid and realistic. For example, in going about the business of pre-vote decision information processing, individuals form different numbers of cognitions or thoughts about stimuli, infer different things from these thoughts or cognitions, and structure and combine these information "elements" in varying ways before arriving at overall conceptions and impressions. Individuals bring different cognitive styles or abilities, or different "tools," to bear on the process of gathering and combining campaign information; they evaluate and judge political actors and issues in terms of differing sets of judgemental criteria or frames of reference and base final judgements on different patterns of these criteria. People, it is premised, differ in political information processing "ability." Without complete assurance and with knowledge that so doing involves us in a value position regarding the nature of political

intelligence, we forward here the thought that this information processing ability may be seen as a central aspect of a political intelligence construct.

The first task of this thesis is the development of a framework which is descriptive of political or election campaign information processing or structuring. This framework, in adapted form, will be descriptive of how the process is carried out differently by individuals exhibiting the differing abilities or tendencies which we premise to exist. We will approach the task by borrowing ideas and models upon which to base the framework from a body of theorizing within cognitive or perceptual psychology. First, a framework descriptive of the general perceptual or information processing process will be outlined. This framework will function as a basis on which to build the adapted framework, which will be better suited to the purpose of describing political information processing as it occurs over time. As well, the framework in adapted form will show the effects of a stable perceiver characteristic which is introduced as being among the important influences on the meaning giving process.

The major part of the thesis concentrates on an aspect of this stable perceiver characteristic, an aspect which affects the political information intake or selection process. The first chapter will function to elucidate its place in a framework descriptive of general political information processing activity. In the final portions of the first chapter the descriptive individual difference framework will be adapted in a way which allows the reader to see its relevance to

political attitude formation models. Finally, the framework will be compared with an intuitive view of political or election information processing in order to gauge its descriptive face validity.

The second major task of this thesis will be the development of a construct which is representative of the stable cognitive characteristic which we set forth as influential on the political information intake or selection process. In the second chapter we will undertake this task and will attempt to arrive at valid and practical measures of the formulated construct.

In the second part of the thesis the task will be to explore relationships between the construct developed to explain election or political information processing differences on one hand, and background, ability, attitudinal and behavioral variables on the other. It is hoped that these final chapters will point out some antecedent and consequent correlates, or what might be termed causes and effects, of differing levels of measured political information processing "ability." In other cases correlates will be purely of descriptive interest. In cases where expectancies about the direction of relationships exist the success of hypotheses will be taken as evidence (favorable or unfavorable) of the validity of the constructs (or measures) formulated.

FOOTNOTES, CHAPTER I

[1] That is, we make no distinction between the basics involved in election campaign information processing and political information processing in general. What is said about election information processing is generalizable to the study of political information processing.

[2] A. Campbell, _et al_., _The American Voter_ (New York: Wiley and Sons, 1964), p. 15.

[3] M. Shapiro, "Rational Political Man: A Synthesis of Economic and Social-Psychological Perspectives," delivered at the Western Political Science Association Convention, Honolulu, April, 1969.

[4] _Ibid_., pp. 5-8.

[5] _Ibid_., p. 8.

CHAPTER II

A FRAMEWORK DESCRIPTIVE OF POLITICAL INFORMATION PROCESSING

The introduction has stated the main perspectives of this investigation. First, that attitudes can be seen as based in structures of information units, and following from this that the study of the processing of information is a fruitful object of the attention of the attitude researcher. Second, that it is realistic to see people as processing political information in different ways and thus realistic to see the political attitudes of different individuals as based in different structures of information and to some extent determined by the attitude holder's information processing habits.

In this chapter we seek to arrive at a framework which is descriptive of political or campaign information processing. Specifically, we intend to develop this framework so that it is descriptive of the way this processing is carried out in accord with individual differences in information processing "ability." This framework will be based in the essential elements seen as operative on the perceptual process in models put forward by others. At the same time, in adapted form, the framework will serve as a representation of the way election information is actually processed. As has been noted in the introduction, the purpose of setting out this framework is to provide an outline of the place,

among the agents which influence the political information processing system, of a stable characteristic which we feel has a good deal of explanatory usefulness to the political psychologist. This characteristic, which influences the information selection part of the perceptual process, will be concentrated on in chapters after this one. The attention of this chapter initially turns towards a model of the perceptual system.

A Model of the Perceptual System

Perceptual activity can be viewed as involving two basic subtypes of activity. Using terms loosely for the moment it can be said that singular perceptions and cognitions of, or pieces of information about reality are first selected by the processor. These components are then combined or patterned into overall conceptions, impressions, or judgements of the reality object.

P.B. Warr and C. Knapper in a comprehensive book, The Perception of People and Events, set forth a model which sees the perceptual process centering around these two types of activities.[1] Their formulation is suggestive of the influences operative on the perceptual process and serves as a useful base on which to build an individual difference oriented framework of political information processing.

Before the Warr-Knapper framework is explicated, time should wisely be devoted to setting forth a terminology for use in the pages to follow. Warr and Knapper use the terms "judgement" and "impression" synonymously to apply to evaluations made either in the presence or absence of the judged object.[2] A distinction as to propinquity is made

by employing "perceptions" when speaking of judgements made in the presence of the object, and "conceptions" when speaking of judgements made when the stimulus is not present. An important distinction is drawn between the meanings of the terms perception and attitude.[3] Attitudes are persistent while perceptions are more flexible; attitudes may have more abstract objects than perceptions; and most importantly, perceptions occur in the presence of the object while attitudes persist beyond the time of perception. Conceptions and attitudes are seen by Warr and Knapper as having important similarities in meaning.

In the remainder of this thesis this set of definitions will be altered slightly in order that terms which describe two distinctions will exist. Firstly, we wish to draw the distinction, not noted by Warr and Knapper, between judgements based on singular units of information and judgements based on several. Secondly, we wish to maintain the Warr-Knapper distinction regarding the proximity of the judged object. In order to have terms at our disposal which parallel these distinctions, we introduce the following definitions, which seem in accord with normal usage. The term "perceptions" will apply to judgements based on singular units of information which are made in the object's presence. A new term "cognitions" will apply to singular pieces of knowledge or information held in the absence of the object of the cognition. (It is noted that cognitions may be arrived at in ways other than by direct perception.) Three terms--judgements, impressions and overall conceptions--will be used synonymously and will apply to the judgemental products of the process whereby singular units of information are combined. As well it should be noted that we will

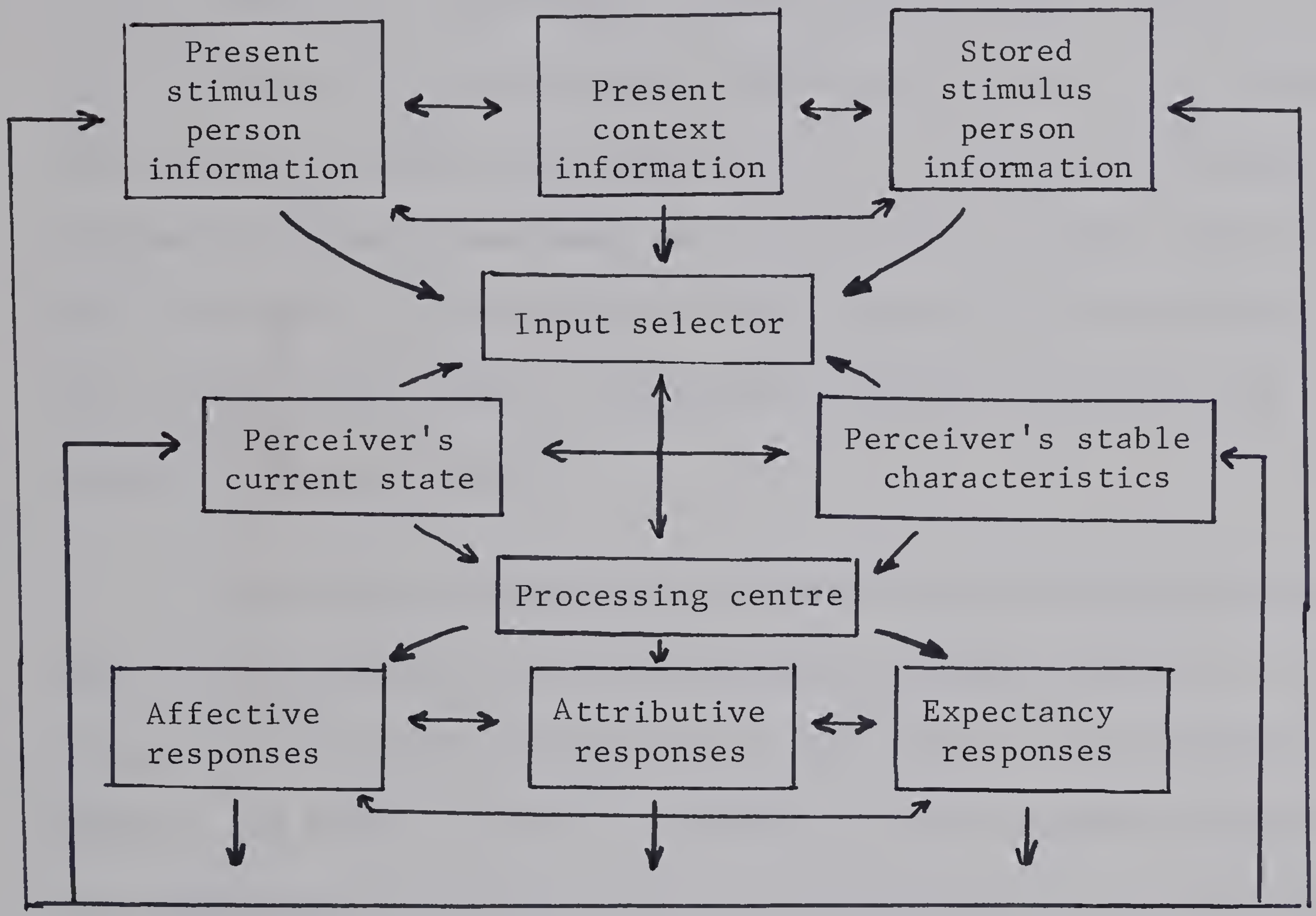
continue to mean the same thing when we speak of the perceptual system and the information processing system.

According to the Warr-Knapper framework the judgemental system is productive of three classes of outputs. First, the perceived (and cognized) object is attributed characteristics, or in other words, categorized and mapped in cognitive space.[4] There are two theoretical types of attributive judgements. Episodic judgements refer to perceptions of a person's state at one time while dispositional judgements are based in what we term "cognitions" about the stimulus person's characteristics. The process of inference or extrapolation to dispositional judgements is explained in terms of a second output of the system--expectancies.[5] Not only are objects classified along dimensions of meaning, but objects are linked with expectancies or predictions about their classification on other dimensions. Emotional responses such as attraction or sympathy are the third output of the perceptual system.[6] Here Warr and Knapper include a distinction which parallels that made between cognitive and affective components of attitudes. Here as there, it seems a necessary distinction but a difficult one to clearly maintain. The authors acknowledge that a case can be forwarded in support of the notion that affective responses can be reduced to attributive judgemental components. This investigation's focus will be on the attributive judgement output of the perceptual system.

A model of the individual judgemental or perceptual process as set forth by Warr and Knapper is reproduced in Figure 1.[7] The two types of processing activity which are forwarded above as being central lead

FIGURE 1

A SCHEMATIC REPRESENTATION OF PERSON PERCEPTION[8]


Present stimulus person information
Present context information
Stored stimulus person information
Input selector
Perceiver's current state
Perceiver's stable characteristics
Processing centre
Affective responses
Attributive responses
Expectancy responses

to the three classes of outputs reviewed. Information about the stimulus is selected, then it is processed and combined into judgements.

The Warr-Knapper framework elucidates five factors which influence the information intake or selection process. Information about the stimulus object, the context within which the object is perceived, and the perceiver's maintained "stored stimulus person (object) information" are three of these important influencing factors. In addition, both current and stable characteristics of the perceiver influence the information selection process. As we have said, a stable characteristic which influences the information intake process will later serve as the focal point of our study of consistent individual differences in information processing ability.

Once units of information (perceptions or cognitions) are selected they are processed and the final outcome components arrived at. This processing of selected information is explained by Warr and Knapper in terms of two types of rules.[9] According to the framework each perceiver uses inference rules which lead to the generation of new perceptions (in our terminology--cognitions) from an original input perception. For example, the perception of "smiling" may lead to an inference of "friendly." Each perceiver also uses combination rules which determine the way in which input perceptions (or cognitions or units of information) are integrated into overall judgements or impressions of the stimulus object.

The multiplicity of connecting arrows in Figure 1 is indicative of the complexity of interactions which are theorized to take place

between inputs, influencing agents or states, and outputs. The dynamic process is noted in Warr and Knapper to be even more complex than can be accounted for diagrammatically.[10]

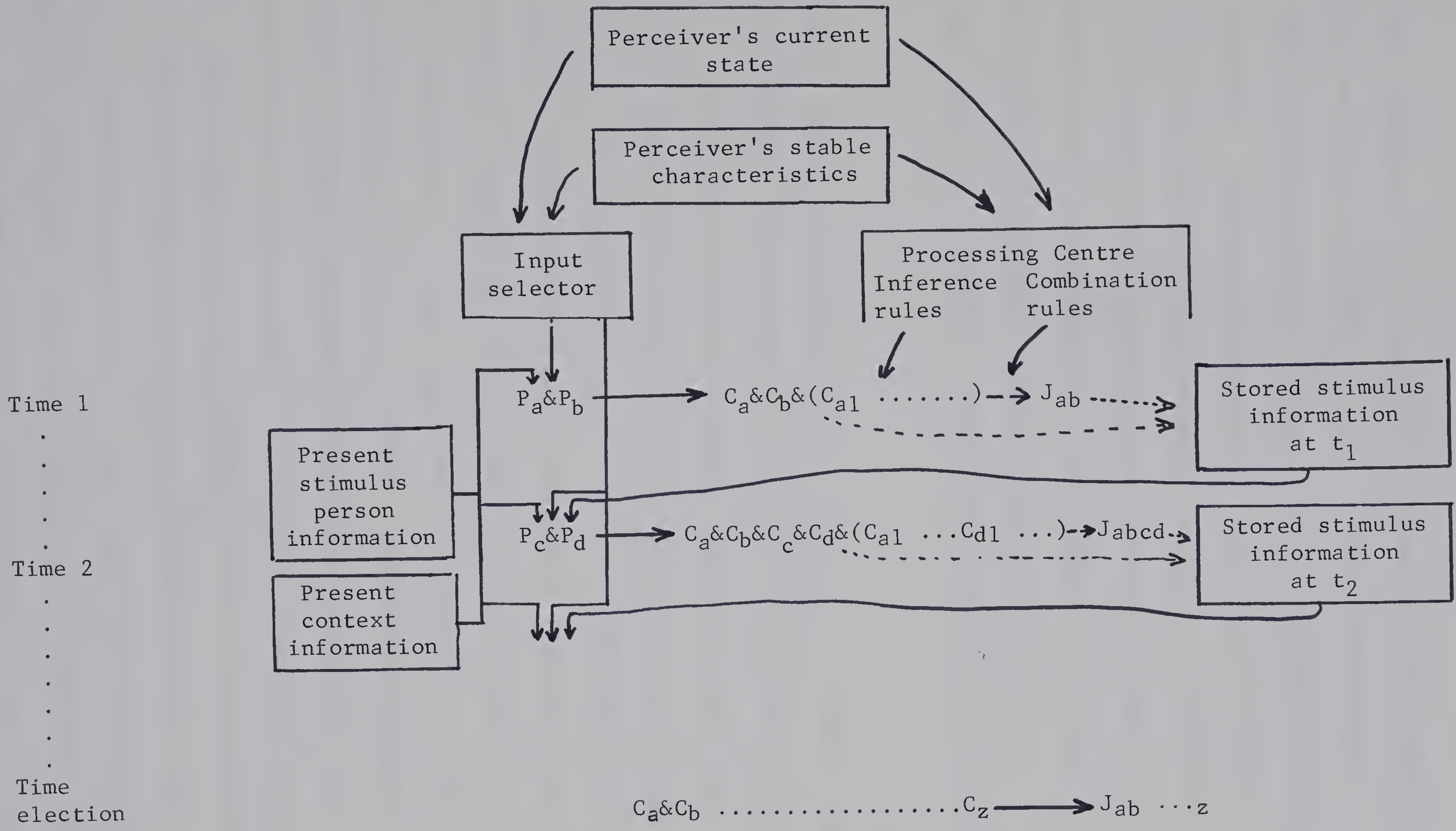
A Framework Descriptive of Political Perception Over Time

The Warr-Knapper framework is of heuristic value chiefly for its specification of the place of the various agents which are influential on the workings of the perceptual or judgemental system. For our purposes the basics of the model are helpful in clarifying the variable factors which can be expected to affect the process whereby political stimuli objects are given meaning. At the same time, a comparison with an intuitive construction of the political object judgement process points to the desirability of emphasizing the longitudinal nature of this process. In a model of the political perception or cognition process, not so much the perceptual encounter but rather the way political stimuli take on meaning over time should be emphasized; _dispositional_ rather than _episodic_ attributive judgements should be attended to. If we speak for the moment of the process where it specifically concerns perception of political personages, it seems clear that overall judgements of political figures at one point in time are usually products resultant of combination of perceptions which are selected over a period of time. This time period may be weeks if the judged figure is a new election candidate, or years if he is an experienced politician or public figure.

Figure 2 explicates the process of judgement as it can be seen to occur over a time period preceding an election. It illustrates the hypothetical process leading to a candidate judgement by one individual.

FIGURE 2

A DYNAMIC CANDIDATE JUDGEMENT SYSTEM


Perceiver's current state
Perceiver's stable characteristics
Input selector
Processing Centre
Inference rules
Combination rules
Time 1
P_a&P_b
C_a&C_b&(C_{a1} ....) → J_{ab}
Stored stimulus information at t_1
Present stimulus person information
Present context information
Time 2
P_c&P_d
C_a&C_b&C_c&C_d&(C_{a1} ...C_{d1} ...) → J_{abcd}
Stored stimulus information at t_2
Time election
C_a&C_b ....C_z → J_{ab} ...z

At time 1 (t_1) the processor, x, encounters information about candidate y and selects two pieces of information in the form of perceptions (P_a and P_b). These perceptions may be singular units of information originating in any source. Information units may be received, for example, through direct observation, through newspaper reading, or through conversation. (In keeping with our emphasis on the structure rather than the content of meaning, no assumption is made here about the objective fact status of these perceptions. They are perceptions regardless of how much their content is slanted or subjectified during the perceptual process.)

Four of the five theorized influencing agents are shown as influencing x's information intake process. The fifth is not operative at t_1 since it is supposed that no stored stimulus information concerning y exists. In accordance with our definitional distinction perceptions (P_a and P_b) next become cognitions (C_a and C_b). At this point processing begins. Through inference rules, additional cognitions (C_{a1} ...) may be generated to augment C_a and C_b. Then, if x is inclined to form an overall judgement at t_1, these cognitions are integrated, in accordance with combinatory rules, into an overall attributive judgement of y. Both of these processing activities (selection and combination) are influenced by current state aspects and stable characteristics of the perceiver. Next, either the overall judgement formed or the uncombined series of cognitions become stored stimulus information about y, and influence x's further perception of y. This process of selecting pieces of information, forming and augmenting cognitions, and combining cognitions into overall judgements continues, hypothetically, until x wishes

to form a final impression upon which to act, as he might as election day draws near. At this time (time election in Figure 2) all cognitions held (whether arrived at by direct generation from perceptions or by inference from cognitions) are combined into a final overall judgement; that is $C_a, C_b \ldots C_z$ form $J_{ab \ldots z}$.[11]

Differences in Cognitive Characteristics--Cognitive Complexity

If the presumed steady differences in political information processing style or ability do exist, and individuals like x do exhibit consistent information processing tendencies when giving meaning to political stimuli before an election or at any other time, then it would seem sensible to direct study towards stable characteristics of men like x which can be construed as bringing about these differences. One construct, cognitive complexity-simplicity, seems well suited as explanatory of steady perceptual, cognitive or information processing differences. The cognitive complexity construct as framed broadly by various cognitive or perceptual psychologists has been utilized to explain differences in both the selection and combination processes.

Each explanatory aspect of cognitive complexity-simplicity centers on the unit construct of dimension. A consensus, we think, would be found among researchers for defining a cognitive dimension as a unique attributive scale along which events, people or objects take on meaning. To quote Schroder, Driver and Streufert:

> Dimensions are the units of conceptual functioning and represent the elements or "content" of thought. Judgements, attitudes, decisions, or perceptions concerning a range of stimuli can be based on few--or many--dimensional units of information. For example, in making judgements about different kinds of light, the

> human being appears to be able to differentiate at least three different aspects or dimensions: brightness, saturation, and hue.[12]

In the majority of cases where the complexity construct has been utilized or discussed, a trait more properly ascribed narrowly as dimensional complexity or dimensionality has been referred to or measured.[13] A level of dimensional complexity is judged with reference to the plurality of dimensions along which objects or persons are perceived or take on meaning. Some people give meaning to persons or objects along numerous independent dimensions, that is, give the stimulus meaning according to several different attributes. Others give meaning to persons or objects along few dimensions. They give the stimulus meaning according to a few attributes. Thus, for example, a connoisseur of wine can be said to be dimensionally complex in his perception of, or processing of information about, a bottle of wine; while an alcoholic might be termed more dimensionally simple. Before arriving at an overall judgement upon which to make a decision the connoisseur forms cognitions based on numerous dimensions of information. He judges the wine as to its sweetness-dryness, color, vintage, consistency, region of origin and so on. The alcholic, on the other hand, may make his decision on the basis of only one dimension of information, say for example, according to its price. Similarly, some voters and political actors "see" and pay attention to numerous aspects of an election or political stimulus object before voting or making political judgements while others judge, evaluate and value the candidate, parties, leaders and issues along only a few dimensions of meaning. The former are said to be more dimensionally complex with regard to political reality.

A second construct, _integrative_ complexity, has been forwarded as descriptive of differences in the way dimensions of information or cognitions are _combined_ into overall judgements or impressions of the stimulus object or person. Schroder _et al_., the prime proponents of this construct, assert that:

> . . . the number of dimensional attributes of information perceived has only a low-order relationship to the level of information processing involved. . . . A person using two dimensions may be able to use them conjointly, combine them in different ways, and compare outcomes, while a person using three dimensions may use them independently in a compartmentalized way. . . . (G)iven complex combinatory rules, the potential for generating new attributes of information is higher, and the degree to which one stimulus can be discriminated from another is increased as the number of perceived dimensions increases.[14]

Dimensions are seen as only potential parts of combinations; a person's information processing complexity depends a good deal on his integrative complexity or that is on the diversity of ways in which he combines these dimensions.

Schroder _et al_. outline models of different levels of integrative complexity ranging from the simple, concrete low integration index structure to the complex, abstract high integration index structure.[15] Those with low integration indexes integrate dimensions in accordance with a few fixed hierarchical combinatory rules. That is, the relationships between the parts are relatively static. On the other hand, those with high integration indexes possess ". . . schemata for forming new hierarchies, which are generated as alternate perceptions or further rules for comparing outcomes. High integration structures contain more degrees of freedom, and are more subject to change as complex changes

occur in the environment."[16]

The task of developing a construct for the purpose of explaining combinatory styles or abilities seems a difficult one. The forwarding of the integrative complexity construct represents a solid but problematic attempt to set forth a construct which would explain this combinatory process. Although the theory of the information combining process put forward by Schroder _et al_. is in basic accord with the combinatory theory presented earlier in this chapter, some skepticism is maintained here about the possibility of measuring the construct and combinatory style or ability differences. In the remainder of this chapter we will continue to speak descriptively in terms of both political integrative and dimensional complexity. In the next chapter and the second part of this thesis, however, we will turn to a concentration on political dimensional complexity. The decision to concentrate on the information intake process is based on two strains of thought. It is based partly on the researcher's recognition of some of the problematic aspects of the integrative complexity construct, and partly on the conviction that the prior investigation of the political information selection process and of dimensional complexity where it applies to politics is both necessary in terms of what should be attempted first, and useful in terms of adding to knowledge of political perception and political attitudes.

To this point in the discussion of cognitive traits and abilities it has been tacitly assumed that dimensional and integrative complexity are hypothetical explanatory constructs. In fact, it might be more realistic to characterize the complexity construct as an intervening

variable between other stable characteristic constructs and information processing behavior. Here we are stating the obvious truth that it is possible that complexity-simplicity may not be a higher order explanatory variable; explanation of information processing behavior in terms of these constructs may not be explanation in terms of the most basic correlative antecedents. Several of the other stable characteristics posited as influences on the perceptual system by Warr and Knapper may in fact wield their influence through the intermediacy of complexity-simplicity.[17]

In this regard little research has discussed the question of why individuals differ in their level of dimensional or integrative complexity. One obvious area to which investigation of such a question might lead is to the area of intelligence research. Piaget's work with intelligence development might, for example, provide clues as to why differences in complexity level exist.[18] Or, such a search for determinant antecedents might lead beyond the structural realm. One might see a tendency to be a complex or simple information selector or combiner as related to motivational characteristics of the personality in the same way that certain cognitive styles have been seen as characteristic of, and functional for, the authoritarian personality.[19] Herein is suggested an important range of questions. Do certain traits lead certain personalities to develop simple or complex abilities or is the causal relationship (if such a thing exists) reversed? Later in this thesis some very preliminary insights into these sorts of questions will be attempted through the testing of hypotheses which state expectations

about the political personality characteristics of complex and simple perceivers. But it must be realized that this sort of question will be resolved only by very comprehensive research. In a similar vein very important questions exist regarding cognitive energy and its effects. These questions seem bound up in teleological considerations of energtism and drive. Questions in need of answer include for example: Where do people get the "energy" to process information and are cognitive complexity-simplicity differences related to an "energy" which people may have in different degrees?

The majority of the research with either of the complexity constructs has investigated the trait as it affects perception of the broad class of reality termed interpersonal stimuli. The assumption of many researchers seems to be that complexity is a trait or ability which is generalized in its operation across this range of stimuli subject matter. W.A. Scott is the only one of the complexity researchers reviewed who focuses research on the perception of a specific class of reality.[20] He deals with complexity as it affects nation perception. Schroder _et al_. and Zajonc (as is noted elsewhere) also hold the view that complexity is not necessarily a consistent general trait affecting the processing of information about stimuli objects in all areas encountered by the individual.[21] Although it is accepted here that the complexity with which information about political stimuli is processed may often be consistent with the complexity with which information about stimuli in interpersonal and other subject areas is processed, the present investigation is based in an agreement with this non-generality thesis. It seems logical that different cognitive abilities or styles may be

applied to the task of processing information about stimuli in different subject areas. Clearly, for example, the wine expert, exemplified above, is not necessarily dimensionally complex in the way he perceives politicians or political issues. Consistent with this perspective, the terms political dimensional complexity and political integrative complexity are introduced to describe consistent differences in characteristics which affect the way political and campaign information is processed.

Political Complexity and the Information Processing Framework

Returning to the two frameworks presented earlier, it is possible to point to the influences of the two types of complexity. Dimensional complexity manifests its influence in terms of how much information is selected. While transitory factors affect the numbers and content of specific perceptions and cognitions arrived at by x (in Figure 2) the number of dimensions along which x normally perceives, or processes information about political stimuli is here theorized as the important stable factor influencing the number of information elements taken in. Given equal availability of information, the politically dimensionally complex person should arrive at, and base his political judgements on more cognitions or independent dimensions of information about political stimuli than his less complex counterpart.

The perceiver's level of integrative complexity affects activity at the processing center in Figure 1. The integratively complex perceiver is likely to maintain more alternative ways of combining sets of dimensions of information into overall impressions than the less integratively complex individual. The integratively simpler person is more

likely to combine his cognitions into similar patterns across different situations and thus he is less likely than the more integratively complex person to be able to discriminate between stimuli. Perceiver x, illustrated in Figure 2, will combine his series of cognitions (C_a, C_b ....C_z) into varying structures of overall judgements depending on his political integrative complexity. If he is integratively complex he may, for example, give predominance to candidate's political stance, taxation policy, or pollution position, or weigh these inputs in varying ways, depending on the situation. If he is more integratively simple, on the other hand, he will be more likely to combine inputs in accordance with a few fixed rules. He may, for example, always weigh heavily his cognition of political honesty in arriving at a final judgement on which to base a vote regardless of what other cognitions or pieces of information are taken in.

An Information Processing View of Political Attitudes

As was noted in the introduction we see it as defensible to construe attitudes as parallel in their informational bases, to the overall judgements or impressions which we have been speaking of to this point. In the same vein, we consider it as defensible to see the beliefs upon which attitudes are based as parallel in important respects to the cognitions, or information dimensions which we have discussed so far. After defending these views, it shall be our task to alter the framework we have developed in order to phrase it in terms of the constructs, belief and attitude.

A view that attitudes center on structures of microistic pieces of information, we think, is basically in accord with the attitude

formulations of such theorists as Rokeach, Osgood and Tannenbaum, Rosenberg and Abelson, Festinger, and Heider.[22] On the other hand, views of the attitude construct exist which do not seem to involve this structure perspective. For example, the functional theories of Katz or Smith, Bruner and White, which see certain attitudes as serving ego-defensive or anxiety externalization functions, speak of attitudes as dispositions to respond rather than as structures of information based elements.[23] At least three things might be said with regard to the functionalist views. First, it is the case that the functionalists hold a very broad definition of attitude. Second, the comprehensive functional typologies *do* include attitudes which function as reality organizers or structurers. Smith *et al*., for instance, see object appraisal as a function of attitudes while Katz notes that attitudes may serve adjustive and knowledge organization functions. To see attitudes in these ways involves a structural or information processing perspective. Finally, it is to be noted that a case may be made for attitudes as structures regardless of their function. For example, the seemingly one dimensional ego-defensive response disposition may still be seen as based in structured information.

We see it as defensible to take a structural approach to attitude study and to construe attitudes as products of information processing in a way parallel to the way that, to this point, judgements or impressions have been seen as products. And we see it as defensible to see judgemental dimensions, the plurality of which dimensional complexity is seen to depend, as "potential" beliefs and inputed dimensions of information or cognitions as beliefs. Thus we can say that politically

dimensionally complex individuals are likely to form more beliefs about political objects than their simpler counterparts. In terms of integrative complexity, politically abstract or integratively complex persons should be more likely to have numerous alternative ways of combining beliefs to form final attitudes in situations.[24]

The Framework and Reality

In what ways is the individual difference oriented framework of information processing found problematic when it is compared to a realistic picture of how campaign information is processed, or in other words, how does this framework measure up in terms of face validity? A few problems are seen to exist at present. The first set of these relate to the idea, noted in the introduction, that the politically complex person may possibly be seen as more politically intelligent or, in some sense, more politically able than the less complex political actor.

It can be argued that such a connection is invalid; that the politically complex person illustrated in the framework should not necessarily be seen as more politically "able" in any sense of the latter term's usage, and thus that the political complexity notion is not useful. Such an argument might point out that in some political situations it could be considered very intelligent to look at few pieces of information as relevant and to combine these few units in accordance with only a few fixed rules in order to arrive at judgements upon which to base action. In a certain election, for example, the intelligent, or able voter might look at only candidate's party's positions on foreign domination and pollution as important. Or, from a different position,

it might be argued that a voter who dissents with the systemic norm is, from his value position, politically able if he bases his judgements only on candidates' exhibited revolutionary predilection. The point of these arguments is well taken. Only within a political system of a certain type can the ability-complexity connection hold. If it is assumed that elections are actually potential influencers of complex arrays of all voter's value states then it follows that vote decisions, to be judged able or intelligent by an observer, must involve a calculus taking account of sets of numerous political information units. Within this assumptive boundary, which we think is realistic, the framework is applicable and the complexity-political ability connection valid.

A second related problematic aspect of the framework remains and can be illustrated by the following example and the questions which arise from it. Voter z is concerned about the election's effects on movie prices and fish licenses and judges candidates according to their position on these policies, their hair styles and their golf handicaps; voter y is concerned about pollution policy and taxes and judges candidates according to their positions on these issues, their leader's positions, and the chances of their being able to implement proposals. If z and y both use equal numbers of political information processing dimensions then can we say that they are equally dimensionally complex? In effect we are asking if the dimensions in our framework need be of certain content before they are seen as significant enough to be counted as dimensions. Although the perspective here is structural, we take the position that some criteria of relevance should be maintained. But we hold that these criteria must be subjective. Each individual must be

presumed to have a peculiar system of rewards, costs, valued states, and criteria for judging political concept instrumentality. And all information relating to held values or value instrumental judgement dimensions must be considered to be relevant. (At the same time the assumption of the last paragraph must be maintained. For all individuals, intelligent political decisions are assumed to be preceded by the processing of numerous units of political information.) Thus we would say that the former individual in the above example, z, has used the same number of judgemental dimensions and is as politically dimensionally complex as y if it were ascertained that the information which he has gathered relates to his important held values and concept value instrumental judgement dimensions.

The tying of the framework to individual value hierarchies brings the framework developed here into some accord with the information processing framework presented by Shapiro. Shapiro's model speaks of two types of evaluative activity and it is possible to see our framework in this same regard.[25] Shapiro notes that ". . . two basic cognitive components process information from the individual's environment to yield the criteria on the basis of which a decision is reached."[26] These components, values and beliefs, have roles which are hypothesized to ". . . correspond roughly to the process of prizing and appraising."[27] In short:

> The evaluative process which precedes the formation of an attitude or the making of a decision according to these two basic models consists of assessments as to the relative desirability of various outcomes (prizing) and of the objects, person, or events that are likely to contribute to the outcomes (appraising).[28]

It is difficult to precisely map the effects which political dimensional or integrative complexity levels should be expected to have on this range of activity. It is also difficult to maintain the distinction made by Shapiro between two types of evaluative activity; making a final judgement such as--I would like x to win the election--can only follow a complex process involving both prizing and appraising types of information processing activity. But if an analytic distinction is made, the complex person should be expected to carry out both types of activity in different ways from his more simple counterpart. Given the major assumption made above about what elections represent, the more dimensionally complex person should prize a final outcome after considering more individual value state preferences; that is he should be more likely to realize that a great array of value states are affectable and should base his vote calculation on more information. At the same time, he should appraise candidates' value state instrumentality along more dimensions. The more integratively complex person should be more likely to exhibit alternative ways of combining the information involved in both value preference calculations and value instrumentality appraisals.

For example, dimensionally complex voter X holds that ten value states are affectable by the election (s_1--pollution control through s_{10}--equitable taxing); while a dimensionally simple voter sees only three as likely to be affected (s_1--more honest parliamentarians through s_3--lower taxes). And if X is more integratively complex than another person who also holds ten value states as affectable then he should maintain more alternative ways of combining his dimensions of information

than this person. As well voter X should appraise candidates' value state instrumentality along more dimensions of meaning than a dimensionally simpler person. For example, if he valued pollution control he would consider candidates along dimensions of judgement relating to their pollution policy, their leader's pollution policy, the reality of whether or not candidates' support bases will allow them to support pollution control and so on. On the other hand, the dimensionally simpler person who also values pollution control might look only at candidates' personal pollution policy. Again integrative complexity will affect combination of these input units.

Finally, the framework better describes reality if it is made explicit that beliefs are arrived at in more than one way. The framework has described the hypothetical case where a voter, in the habit of judging (or having the steady disposition to judge) candidates as to their honesty, pollution policy and so on, judges candidate y along these dimensions. But voters (and political actors) will form beliefs in at least two other ways. A voter, for example, may infer a belief about y's humanism from a judgement of y's policy to Indians, or through association arrive at a belief about y's honesty from a knowledge of y's law partnership with z. Or, upon reading about an incident, the voter may change a belief about y's justness. The descriptive framework should encompass each of these belief formation methods and it should be made clear that complexity level will influence belief formation in each case.

Summary

In this chapter we have set out a framework which describes the process whereby political and election information is processed and political objects given the meaning upon which attitudes are based. The very setting forth of such a framework and the description of information processing and meaning giving processes in terms of dimensions and their combination risks involving the framer in the position that information processing activity is carried out by individuals in a conscious calculating way. Definitely this is a position which we do not wish to uphold here; we do not believe that judgements of political stimuli and attitudes toward these objects are the result of a conscious calculus involving information units. At the same time this chapter has been premised on the notion that individuals maintain consistent political information processing tendencies or habits. In the remainder of this thesis we concentrate on differences in the way individuals perform a part of this process, the part whereby political information units are selected for further processing. In the present chapter we have described the nature of these differences and introduced the political dimensional complexity construct as explanatory of consistent differences in the way the political information selection process is carried out. In the chapters ahead we attempt the measurement of this construct and explore some of its correlates.

FOOTNOTES, CHAPTER II

[1] P.B. Warr and C. Knapper, The Perception of People and Events (London: John Wiley and Sons, 1968), Chapter I.

[2] Ibid., pp. 3-5.

[3] Ibid.

[4] Ibid., pp. 7-12.

[5] Ibid., pp. 13-15.

[6] Ibid., pp. 15-16.

[7] Ibid., pp. 16-31.

[8] From Warr and Knapper, op. cit., p. 20.

[9] Ibid., p. 21.

[10] Ibid., p. 22.

[11] For the sake of diagrammatic clarity two types of response outputs and several arrows interconnecting inputs, outputs and influencing agents are omitted from Figure 2.

[12] H.M. Schroder, M.J. Driver and S. Streufert, Human Information Processing: Individuals and Groups in Complex Social Situations (New York: Holt, Rinehart and Winston, Inc., 1967), p. 7.

[13] See a review in Chapter III of this thesis.

[14] Schroder, et al., pp. 14-15.

[15] Ibid., Chapter II.

[16] Ibid., p. 7.

[17] Warr and Knapper, op. cit., p. 18.

[18] See the chapter on Piaget in Roger Brown, Social Psychology (New York: The Free Press, 1965), Chapter V.

[19] T W. Adorno *et al.*, *The Authoritarian Personality* (New York: The Norton Library, 1950), Chapter X.

[20] W.A. Scott, "Cognitive Complexity and Flexibility", *Sociometry*, 25 (1962), p. 407.

[21] Schroder, *et al.*, *op. cit.*, pp. 128-129 and R.B. Zajonc as cited in J.S. Vannoy, "Generality of Cognitive Complexity-Simplicity as a Personality Construct," *Journal of Personality and Social Psychology*, 2 (1965), p. 385.

[22] M. Rokeach, *Beliefs, Attitudes and Values* (San Francisco: Jossey-Bass Inc., 1968); C. Osgood and P. Tannenbaum, "The Principle of Congruity in the Prediction of Attitude," *Psychological Review*, 62 (1955), pp. 42-55; M. Rosenberg and R. Abelson, "An Analysis of Cognitive Balancing," in C. Hovland and M. Rosenberg (eds.), *Attitude Organization and Change* (New Haven: Yale University Press, 1960), pp. 112-163; L. Festinger, *A Theory of Cognitive Dissonance* (Stanford: Stanford University Press, 1957); and F. Heider, "Attitudes and Cognitive Organization," *Journal of Psychology* (1946), 21, pp. 107-112.

[23] D. Katz, "The Functional Approach to the Study of Attitudes," *Public Opinion Quarterly*, 24 (1960), pp. 163-204; and M. Smith, J. Bruner and R. White, *Opinions and Personality* (New York: Wiley and Sons, 1956).

[24] Schroder, *et al*., *op cit*., pp. 126-127.

[25] M. Shapiro,"Rational Political Man: A Synthesis of Economic and Social-Psychological Perspectives," delivered at the Western Political Science Association Convention, Honolulu , April, 1969.

[26] *Ibid*., p. 7.

[27] *Ibid*.

[28] *Ibid*.

CHAPTER III

THE MEASUREMENT OF POLITICAL DIMENSIONAL COMPLEXITY

In the first chapter a framework was outlined which was descriptive of the way information about political or election campaign stimuli is processed and overall conceptions, judgements or attitudes arrived at. Two activities, a selecting of information and a combining of information, were seen as involved in this process, and it was hypothesized that individuals differ in terms of how they carry out both of these activities. The construct of political dimensional complexity was seen as explanatory of differences in how much information about politics is taken in for processing; the construct of political integrative complexity was seen as explanatory of differences in how elements of this information are combined into overall cognitions or concepts.

This chapter will explore the possibilities of measuring both of these constructs and eventually will be devoted to measuring one construct. An attempt will be made to develop, theoretically and empirically, measures of the dimensional complexity construct as it is seen to affect the way perception and cognition of political issues, parties and personages is carried out. It would be difficult to arrive at indicants which would exactly measure an individual's "ability" for the information selection process as described in the first chapter. What will be developed are two measures which allow us to make inferences about the plurality of dimensions which individuals normally use to make political

reality meaningful.

A Review of Cognitive Complexity Measures

A useful starting point is found in a comprehensive review of the measures of general complexity which have been developed and utilized by others. To review what was said in the first chapter, most of these researchers, in setting out to measure what they term cognitive complexity-simplicity, have actually measured only one aspect of this broader construct. They have measured a construct which parallels our notion of dimensional complexity, or that is, a construct descriptive of information intake processes. Only Schroder, Driver and Streufert have attempted to build a construct around the notion of combinatory complexity. They have framed the integrative complexity construct and have attempted to measure it.

Several pieces of research in the area have used measures which infer the subjects' level of dimensional complexity from subjects' behavior on tasks which ask them to sort stimuli objects into groups on the basis of underlying perceived similarities, or on tasks which ask subjects to make similarity judgements between given sets of stimulus objects. This method allows the researcher to infer the multiplicity of dimensions which are used in making evaluations of concepts in a stimuli area.

Scott, for example, asked subjects to sort lists of nations (which subjects generated themselves) into groups "which belong together" in order to ascertain the "number of dimensions worth of information yielded by the grouping systems."[1] He suggests that analysis of these

results can be carried out by simply measuring the number of distinctions made between the nations or by analyzing a multidimensional space with vectors which angle from each other in accord with judgements of similarity between generated groups. Scott found that level of complexity measured in this way was related to a measure of cognitive flexibility.[2]

Numerous researchers in the area (for example, Bieri, 1961 and Lundy and Berkowitz, 1957) have made use of an instrument developed by Kelly called the Role Construct Repertory Test (RCRT) or of variations of it (Nidorf and Crockett, 1965).[3] The RCRT measures the dimensional complexity of an individual's perceptions of others. Subjects generate a list of interpersonal stimuli and consider them in groups of three on the basis of the way two of them differ from the third. Knowledge of the bases on which these similarity judgements are made allows the researcher to credit the subject with a bank of constructs which are inferred to be those which the subject uses in making judgements about interpersonal concepts. Constructs or dimensions which are similar to one another are noted by their similar check patterns on a grid containing all stimuli. Using this measure, Bieri found a relationship between complexity and ability to predict other's behavior and a tendency to project one's feelings onto others, while Nidorf and Crockett found complex people better able to integrate conflicting information components into a unified written impression.[4]

The method of multidimensional scaling as developed chiefly by Messick and Torgerson seems to be the most sophisticated of the grouping techniques.[5] It involves asking subjects to make evaluations of

similarity between all possible stimuli objects or persons in a group. A matrix of relative distances between all possible pairs of stimuli objects is arrived at, and the space thus generated is factor analyzed to allow the researcher to ascertain the numbers of dimensions or independent categories which the subject uses to make similarity-dissimilarity judgements. Jackson and Messick (1963) review the researches of Messick (1961) and Tucker and Messick (1960) which have used a version of this technique to study the dimensionality of the perceptual space which is generated by the perception of political figures.[6] In Tucker and Messick's study subjects rated twenty political personages on a nine point scale as to similarity of political thinking. Factor analysis of judgements generated revealed differences in individual's evaluative spaces ranging from a simple one dimensional way of evaluating to a complex way of evaluating where numerous means of distinguishing between political figures are employed.

Vannoy, in his article "Generality of Cognitive Complexity-Simplicity as a Personality Construct," reviews a sample of the above mentioned and other measures which have been used to measure or infer subject's level of complexity-simplicity.[7] A factor analysis of 113 subjects' scores on these various measures revealed that several different types of cognitive complexity or flexibility are measured by indicants in use. Several of the measures reviewed infer the existent level of complexity from subjects' scores on such measures as authoritarianism scales, intolerance of ambiguity scales and the independence of judgement test. While scores on tests such as these may correlate

with level of complexity-simplicity, these tests do not directly measure the construct. (Similarly, in their prejudice studies, Koenig and King--1962, 1964--have used measures of predictive ability and assimilative projection to make what we consider a rather indirect inference about level of complexity of subjects.)[8] A more direct measure of complexity-simplicity is Vannoy's adaptation of the Triandis and Triandis social distance measure.[9] Vannoy suggests designing items so that they include four possible factors of social judgement: conventionality, criticalness, congeniality and competence. He suggests that a complex person should show a higher proportion of factor interaction variance and should base his judgements of others on more combinations of the four traits, that is, utilize more than one factor combination.

Vannoy also suggests two measures based in the semantic differential which would serve to measure complexity-simplicity.[10] One of these involves an alteration of a measure used by Ware (1958) which analyzed semantic differential scales.[11] "The scales were correlated across concepts for each subject and the matrix of intercorrelations was factor analyzed. As an indication of the dimensionality of the semantic meaning space Ware took the percentage of variance extracted by the first factor."[12] A second measure tried by Vannoy provides an indicant of a ". . . tendency to be highly sensitized to differences among different persons" and involves a two way analysis of variance of semantic differential data with concepts and scales serving as factors.[13]

Schroder et al. suggest three ways of measuring integrative complexity.[14] They have most successfully used projective measures

involving careful coding of paragraphs written in response to sentence stems such as "when I am in doubt . . .", or written impressions of persons who have been described by a list of adjectives. However, both these and the behavioral indicants of complexity suggested for use in experimental situations seem cumbersome and impractical. Of most interest in terms of the researcher's concern with practicality are the scaling methods suggested by Driver as integrative complexity measures. Driver's rationale is explicated in this short passage from Schroder _et al_.:

> . . . having discovered the number of dimensions generated and used by a person or a group in reference to some range of stimuli (such as people, groups, or objects), Driver reasoned that the more evenly each dimension was weighted in any given set of judgements or perceptions, the greater the probability that the response was generated by an integratively complex structure.[15]

This review of research has revealed that dimensional complexity has been measured with more certainty than has integrative complexity. As was noted in Chapter II, the work of Schroder _et al_. does not serve to bolster our confidence in the measurability of their construct. Measures of integratively complexity seem necessarily to involve measurement of the existence of combinatory rules in subjects' minds. We see success in this task as achievable only through the usage of very uncertain inferences from observation of subjects' performances of complex tasks. Again we note that the decision to focus on the political dimensional complexity construct was based in these negative considerations as well as in the recognition that dimensional complexity has an important enough place in an election information processing framework to justify receipt of our full attention.

Political Dimensional Complexity--A Formulation

At this point it seems advisable to venture ahead by stipulating what we see involved in the political dimensional complexity construct and by then trying to arrive at measures of the construct formulated. The dimensional complexity-simplicity construct is seen here as having at least two aspects which reveal themselves in information processing behavior. Firstly, as has been continually stressed, politically dimensionally complex and simple individuals vary as to the number of dimensions they use to gather and track political information or that is, to chart political reality into meaning. Secondly, it is here theorized that differences along the political dimensional complexity continuum are paralleled closely by differences in the extent to which importance is attached to the few most important judgemental dimensions. The simple person, we think, should be expected to rely heavily on a small number of dimensions when judging political reality, while the complex person should not be expected to rely so heavily on any one judgemental dimension.

Two things should be said with regard to this second theorized aspect of our formulated political dimensional complexity construct. First, it is not considered tautological that dimension number relates to dimension importance even though at the simplistic end of the complexity continuum the relationship does seem to be almost tautological. That is, the person with few judgemental dimensions can hardly but rely heavily on these few, but at the same time it is theoretically possible that the person who uses several significant judgemental

dimensions may still make exaggerated use of only one or a few of these. Dimension number and dimension importance are theorized to relate, but it is not considered logically necessary that a certain level of dimension importance follow from a certain level of dimension number. Secondly, we note that it could be argued that inclusion of the notion of factor importance may have loaded our construct with an aspect closer to integrative complexity. Indeed Driver, noted above, bases a measure of integrative complexity in a rationale similar to that behind our importance aspect of dimensional complexity. In answer, it is reiterated that measuring integrative complexity involves the very difficult task of ascertaining the sets of rules which are applied to the information or belief combination task. We see an indicant of the importance of dimensions as revealing little of certainty about these information dimension combination rules or habits.

Two Measures of Political Dimensional Complexity

Two general measurement techniques are conceived as generative of specific indicants of both of the formulated aspects of dimensional complexity. Both are based in analysis of subject responses on the semantic differential measuring device. Before the two measurement procedures are introduced, and the rationale behind their use explicated, a brief introduction of the semantic differential will be set forth.

The semantic differential is a flexible device used to measure the meanings that subjects attribute to words and concepts. In that it measures the elements of this meaning it seems appropriate as an instrument which will reveal data about differences in the way

individuals perceive, cognize, and form individual beliefs about persons, things, and events; its generation of data about the elements of meaning seems to suit it particularly to the purposes at hand. As well, the semantic differential is valued here for its practicality. This feature is useful given the desire to develop measures which can be derived from easily administerable general measures.

The semantic differential device asks respondents to judge a concept (usually a series of concepts) along a given set of scales as in the following example.

DICK NIXON

Strong ___;___;___;___;___;___;___ Weak
Good ___;___;___;___;___;___;___ Bad
Dishonest ___;___;___;___;___;___;___ Honest

The respondent's check along each adjective pair scale is expressive of one aspect of the meaning he attaches to the concept. A bank of data is generated by attaching values to different scale placements. This data can be analyzed in various ways in exploration of the structure and content of the meaning which the subject attaches to concepts. Extensive discussion of the semantic differential as a measuring device is found in the work of Osgood, the principle originator of the device, Warr and Knapper and others.[16]

The Similarity Judgement Measure

The most frequently used of the cognitive complexity-simplicity measures reviewed above have essentials in common. As noted, measures

developed by such researchers as Kelly, Scott and the multidimensional scaling analysts all basically infer level of dimensional complexity from the numbers of discriminant groupings into which a subject places a sample of concepts when given a sorting task to perform. Each discriminant grouping is taken as representative of a dimension or category which is inferred to be used to make judgements of, and distinctions between objects in the stimulus area. The most sophisticated of these techniques is the complex device of multidimensional scaling. Its origin owes to the fact that researchers were aware that concepts, because of their complexity, are often judged simultaneously along numerous dimensions of meaning.[17] Multidimensional scaling is an instrument designed to measure differences in the way men carry out this multidimensional judgement. Basically, in Torgerson's development of the technique, the Euclidean space, representing a mapping of similarity judgement based "distances" between each possible pair of the concepts in the field of cognition or perception, is analyzed to reveal its basic dimensions.

The first measure of political dimensional complexity to be developed here, while not as sophisticated as measures based in multidimensional scaling procedures, has its foundations in some of the same common essentials as the Torgerson technique and the "grouping" devices noted above. This first measure, like the second to be introduced, represents something of a "medium" approach to the political dimensional complexity measurement task. While the researcher is confident that it parallels sophisticated and sound measures in its basics, this measure is derivable from easily administerable semantic differential tests.

This first measure has the purpose of revealing the multiplicity of independent groupings into which an individual discriminates political concepts when mapping them in cognitive space. The analysis basic to this measure is carried out on the matrix of all possible interconcept distances which result from individual's judgements of concepts along semantic differential scales. These distance scores are calculated from raw semantic differential scores using the generalized distance formula outlined by Osgood, which takes into account judgements of similarity along a series of semantic differential scales.[18] The distance score (D) between two concepts judged on the semantic differential basically represents the total of absolute differences in the way the concepts are judged on each of the semantic differential scales.

Factor analysis of an individual subject's distance matrix will reveal the number of similarity based groups into which he discriminates the sample of political concepts. Each significant factor revealed will represent one such significant discriminate group. Given the assumption that each group is based on a judgemental dimension used by the subject, an inference can be made to the number of political judgement dimensions used by the subject and thus to an aspect of his political dimensional complexity.[19]

Factor analysis results should also show the extent to which one political judgement dimension is important to the subject. The factors revealed by factor analysis will each explain a certain percentage of the variation in a subject's similarity judgements. If the percentage explained by the first (or most important) factor is large then one can infer that the first judgemental dimension used by the subject is

important or that is, that the subject discriminates between political concepts largely on the basis of one judgemental dimension. If this percentage is not as large, the first judgemental dimension of the subject is less important and secondary dimensions more important in the subject's political judgement process.

Before the second major dimensional complexity measure is introduced, the problematic aspects (at least those recognized at this stage of study) of the first measurement device should be pointed out. Both problem areas relate to the measure's bases in the distance notion.

Firstly, whereas the MDS, Scott and Kelly techniques are all based in subjects' overall judgements of similarity-dissimilarity, our distance measure of similarity does not represent an indicant of a true "gestalt" judgement of similarity. Even if it is assumed that a subject's judgements of similarity actually are made along the semantic differential adjective pair dimensions which he is allowed to judge concepts along, one cannot assume that each of these scales is weighted equally in the subject's actual arrival at an overall "gestalt" of similarity. For example, judgements of political candidates' similarity along dimensions of justness, leftness, party affiliation and so on may matter a good deal or very little in a subject's arrival at an overall judgement of similarity, but it is unlikely that they matter equally, as our D measure assumes. Table I shows the overall factor structure of adjective pair usage by the total sample which will be studied later. These results show that the sample as a whole make judgements along three main dimensions of meaning. These dimensions can be labelled

TABLE I

FACTOR ANALYSIS OF ADJECTIVE PAIR USAGE BY THE TOTAL SAMPLE OF 320 VOTERS INTERVIEWED. FACTOR ANALYSIS IS WITH CONCEPTS "SUMMED OVER", FOR (320 x 24) = 7680 CASES.
(REPORTED IS THE VARIMAX ROTATED MATRIX, DECIMAL POINTS OMITTED.)

Adjective Scales	Factor Loadings			
	I	II	III	h^2
Just/Unjust	861	-239	-015	799
Right/Left	-034	071	997	1.00
Practical/Impractical	803	-289	-025	729
Weak/Strong	-266	876	059	841
Bad/Good	-793	387	041	781
Unstable/Stable	-400	783	060	776
Important/Unimportant	793	-214	-036	675

the evaluative, the potency and the left-right dimensions. Four of the adjective pair scales which will be weighted equally in the distance scores load on the evaluative factor, two load on the potency factor and one loads on the left-right factor. Thus, if a subject was to use adjective pairs as the sample does in judging concepts, then his evaluative similarity judgements would be weighted twice as heavily in his distance scores as his potency judgements and so on.[20] Ideally, a weighting procedure suited to each subject's adjective pair factorial structure would be applied. However tailor making distance measures to suit idiosyncratic factor structures is impractical.

Secondly, it should be noted here, as it is elsewhere, that vastly different semantic differential profiles may result in the same overall D score.[21] Take for example the following judgement of two sets of political concepts (x,y) and (p,q) along three scales where scores 1 through 7 represent judgements of degree from very just to very unjust, very left to very right, and very weak to very strong.

	x	y	p	q
just-unjust	6	6 = $(0)^2$	6	3 = $(3)^2$
left-right	2	2 = $(0)^2$	5	5 = $(0)^2$
weak-strong	7	2 = $(5)^2$	3	7 = $(4)^2$
	D = $\sqrt{25}$ = 5		D = $\sqrt{25}$ = 5	

The subject differentiates x and y on one dimension, q and p on two, but by our measure judges x to be similar to y to the same degree as he judges p similar to q. Of course, in actual fact he may see a great deal more similarity between x and y than he does between p and q or vice-versa.

Its basis in the D score definitely detracts from the conceptual clarity of the similarity judgement measure of political dimensional complexity. Neither of the arguments that D scores are imprecise measures of psychological similarity can be defended against; the use of the Osgood D formula can only be supported by the position that it gives a good rough measure of psychological similarity-dissimilarity which is fairly easily derivable from an easily gathered bank of data.

The Adjective Pair Scale Usage Measure

The second measure of political dimensional complexity involves a different type of analysis of semantic differential scores. The Ware measure reviewed by Vannoy is based in the same rationale but no other research reviewed parallels the second proposed measure. Thus, little validational support is provided by prior usage of similar measures.

This second measure is based in the idea that the way subjects judge political concepts with the semantic differential adjective scales given them is indicative of the level of dimensional complexity they bring to bear on the processing of campaign or other political information. The number of independent patterns of usage into which the subject combines these adjective scales is taken to be directly related to his political dimension number level. For example, if analysis reveals that subject A, in judging a list of concepts, uses four adjective pair scales in such a way that what is judged just is most often judged good, stable and strong as well; while analysis of B's usage reveals that in judging political concepts he uses these scales in three significant independent patterns, such that there is little relationship between his

judgements of goodness and of stability, justness or strength; no relationship between his judgements of justness and of stability, goodness or strength; and a strong relationship between his usage of stability and strength scales; then B will be inferred to have at his disposal more independent political judgement dimensions than A.

Several factor analytic studies of groups of subjects have revealed the dominance of three major factors as explanatory of the relationships in common between a large range of adjective pairs as used by subjects.[22] Listed in order of the variance which they normally account for, these factors are the evaluative (as represented for example by scales such as unjust-just and good-bad); the potency (for example strong-weak); and the activity (for example fast-slow). The results of factor analytic study of the usage of the seven adjective pairs included in our battery by the full sample of subjects is shown in Table I.[23] These findings reveal a concordance between normal factor structure and the one existent here. Four of our scales load on the evaluative factor: Just/Unjust (.861), Practical/Impractical (.803), Bad/Good (-.793), and Important/Unimportant (.793); two scales load on a second factor interpreted to be a potency factor: Weak/Strong (.876) and Unstable/Stable (.783). A third factor is interpreted as a type of political activity factor or alternatively as representative of the scale which loads on it: Left Wing/Right Wing (.997).

It is expected that few individuals use scales in a way similar to the way this total sample uses them. Factor analysis of all individual subject's adjective pair usage should reveal a wide range of

idiosyncratic factor structures, and a variance in the number of important factors explaining subjects' adjective scale combination patterns. Each factor will be inferred to represent an independent political judgement dimension and the number of significant factors revealed will be taken as a measure of dimension number. As in the case of the previous measure, the percentage of variance (here in adjective scale usage) explained by the first factor will show if one judgemental dimension is of small or exaggerated importance.

The scale usage measure of dimensional complexity also has problematic aspects. First, the fact that all subjects are given a standard set of scales along which to make their judgements and are limited to the use of these scales should be noted. In fact, subjects may judge concepts along numerous other scales depending on their actual political information processing habits. Clearly we are placing an artifical limitation on the number of judgemental dimensions which can reveal themselves as significant independent factors. A related problem concerns the fact that this measure does not necessarily measure those important dimensions of information which were stipulated to be tied to held values in the framework presented in Chapter II. The scales given the subjects cannot be advanced as representations of such value-tied dimensions; for example, a person may or may not value or see as value instrumental candidate justness or stability; at the same time he may value candidates along many other dimensions. The following points can be applied in counterargument against these criticisms. First, the adjective pair scales utilized here are representative of the three major judgemental dimensions (or dimensions of meaning)

found to exist in the factor analytic studies noted above. As well, we judge these seven scales to be representative of commonly used value or value state instrumentality judgemental dimensions. We think that subjects' usage of this representative set of scales allows a valid inference to their dimensional complexity level.

A third problem, which is somewhat opposite to the first two, exists. Subjects' use of adjective pair scales in the test situation is not necessarily representative of their use of these scales in actual information processing situations. Thus it is possible that judgemental dimensions which are not actually used may be revealed as factors and thus raise measured dimensional complexity level. This criticism, like the first two, can be defended against from the position that measuring any form of overt or cognitive behavior by an inference from performance on a representative task involves the possibility that the inference is invalid, and the task performance not representative of actual behavior. By way of more directly confronting the criticism we can say that the oral semantic differential administration procedure, to be noted in a footnote below, assures as well as possible, that dimensions revealed through semantic differential checking are actually used by subjects.[24] And since factors represent patterns of similarly used adjective pairs we can say that a factor (and thus a dimension) will be the result of a consistent checking pattern. And a consistent checking pattern, we think, is likely indicative of practised actual usage, rather than of random test checking performance.

An Empirical Investigation of Dimensional Complexity Criteria

Introduction

A preliminary empirical investigation of the semantic differential scores of subjects was undertaken in order to explore the possibility of forming political dimensional complexity scales from criteria derived from the two basic measures introduced above. This investigation analyzed the semantic differential scores of a group of forty-two subjects chosen randomly from a larger sample of 318 citizens in the Edmonton Centre constituency who were contacted by a team of University of Alberta researchers during the Federal Election campaign of 1968.[25] The semantic differential section of the interview questionnaire asked the subjects to judge the 24 concepts in list A with the seven adjective pair scales in list B.[26]

List A

Pierre Elliot Trudeau
Helping Indians and Metis
New Democratic Party
T.C. Douglas
Satisfying Quebec
Social Credit Party
Providing Medicare
Lester B. Pearson
Steve Paproski
Supporting the U.S. in Vietnam
Don Gray
Satisfying the Western Provinces
Liberal Party
Robert S. Stanfield
Providing More Housing
Norman Dolman
Reducing U.S. Influence in Canada
John Diefenbaker
Progressive Conservative Party
Reducing the Cost of Living
E.C. Manning
Bill Hawrelak
Canada
Controlling Air and Water Pollution

List B

Just-Unjust
Right Wing-Left Wing
Practical-Impractical
Weak-Strong
Bad-Good
Unstable-Stable
Important-Unimportant

The procedures for analyzing the semantic differential data of individuals with the purpose of deriving political dimensional indicants from each of the core measurement techniques were as reported next. In order to derive the adjective pair scale usage indicants each subject's semantic differential scores were rearranged into a matrix. Each subject's matrix was factor analyzed to uncover his basic adjective pair usage dimensions.[27] Separate investigations provided the same information with regard to individual's usage of adjective pair scales when judging first, only ten person concepts and second, only nine issue concepts. In order to derive the similarity judgement complexity indicants each subject's scores were rearranged into a matrix. This bank of data was used to generate a second matrix for each subject. This second matrix consisted of scaled distance scores between each possible pair of the 24 concepts as judged by the subject.[28] These distance matrices were factor analyzed to reveal the basic factors or judgemental dimensions underlying each subject's judgements of similarity between the 24 political concepts. A separate factor analysis arrived at the factor structures of matrices made up of the distances between fourteen person and party concepts.

Factor Analytic Results: Possible Criteria

When the rearranged matrices of subjects were factor analyzed, each of the base complexity measurement devices generated indicants of both of the aspects of political dimensional complexity--dimension number and dimension importance.[29] The criteria which were selected initially as possibly sensitive indicants of these aspects are set out and briefly explained below.

1) Adjective scale usage derived measures

   a) The number of factors with eigenvalues greater than .90 which explain individuals' usage of all seven adjective pair scales in judging the 24 political concepts. (Eigenvalue level is indicative of the amount of variation accounted for by a pattern. A factor with an eigenvalue greater than .90, given seven variables, accounts for at least (.90/7) ≃ 13% of the total variance in a subject's use of adjective pair scales.)

   b) The number of factors with eigenvalues greater than .50, which reveal themselves in individual's usage of seven adjective pairs on 24 concepts. (See the explanation of eigenvalues set out above.)

   c) The percentage of all adjective pair usage variance explained by the most important factor before rotation.

   d) The percentage of total adjective pair usage variance explained by the most important factor after rotation points out the most distinct uncorrelated clusters of scores (Varimax Rotation).

2) Similarity judgement derived measures

   a) The number of factors explaining judgements of similarity (as calculated by distances) with eigenvalues greater than 1.0 or, that is, which explain at least (1/24) ≃ 4% of total variance in grouping of concepts in psychological space.

   b) The number of factors with eigenvalues greater than .75 which reveal themselves in individual's judgements of similarity between the 24 concepts. (See the explanation of eigenvalues above.)

   c) The percentage of all similarity judgement variance explained by the most important factor before rotation.

   d) The percentage of all similarity judgement variance explained by the most important factor after rotation has revealed the most distinct uncorrelated clusters of relationships.

The Development of Political Dimensional Complexity Scales

The correlations between these criteria are displayed in Table II. These correlations indicate the existence of a substantial degree of relationship between several sets of these criteria. The correlations

TABLE II

CORRELATIONS BETWEEN CRITERIA MEASURES OF DIMENSIONAL COMPLEXITY WHICH ARE DERIVED FROM TWO BASIC MEASURES PEARSON R'S, N = 42

	Derived from adjective scale usage measure				Derived from similarity judgement measure			
	Factors with eig. greater than .90 (1)	Factors with eig. greater than .50 (2)	% of total variance exp. first unrotated factor (3)	% of total variance exp. first unrotated factor (4)	Factors with eig. greater than 1.0 (5)	Factors with eig. greater than .75 (6)	% of total variance exp. first unrotated factor (7)	% of total variance exp. first rotated factor (8)
(1)	1.000							
(2)	.687^{+}	1.000						
(3)	-.804^{+}	-.827^{+}	1.000					
(4)	-.380*	-.554**	.667^{+}	1.000				
(5)	.550^{+}	.487**	-.577^{+}	-.499^{+}	1.000			
(6)	.415**	.337*	-.394**	-.386*	.841^{+}	1.000		
(7)	-.329*	-.242	.269	.432**	-.772^{+}	-.824^{+}	1.000	
(8)	-.387*	-.269	.418**	.419**	-.731^{+}	-.829^{+}	.846^{+}	1.000

$^{+}$Significant at the .001 confidence level; **Significant at the .01 confidence level; and *Significant at the .05 confidence level.

between indicants derived from different general measuring devices are particularly satisfactory. For example, the important correlation between the numbers of significant factors revealed by factor analysis of adjective scale usage and by factor analysis of similarity judgements is significant at the .001 level of confidence (R = .550).

Four criteria were chosen as good scale components. An indicant of dimension number and an indicant of dimension importance derived from each method of measurement were chosen. These four indicants were chosen after a factor analysis of the eight criteria (listed in the last section) showed that these four were the strongest representatives of two separate but related dimensional complexity factors. As well, the choice of these criteria was made on the basis of their theoretical place as measures of the two aspects of dimensional complexity and on the basis of their ability to distribute subjects normally along a range of scores. The number of factors with eigenvalues greater than .90 was chosen as a measure of the number of judgemental dimensions into which a subject forms the set of seven adjective pair scales. The percentage of total variance explained by the first unrotated factor was chosen as a measure of the extent to which one dimension underlying adjective pair scale use is important to the subject. The number of factors with eigenvalues greater than 1.00 was chosen as a measure of the number of factors underlying judgements of political or campaign concept similarity. The percentage of total variance explained by the first unrotated factor was chosen as a measure of the importance of the subject's most important similarity judgement dimension.

The correlations between scores of the subsample on these criteria indicants are shown in Table II. Table III gives results of the factor analysis of these correlations. This table reports first the factor matrix arrived at when unrotated factors describe the general patterns of relationships in the scores, and second the factor matrix arrived at when these factors are rotated to describe the most distinct uncorrelated groupings of measure scores. Third, the table reports the factor matrix resultant after oblique rotation (the primary pattern matrix is reported). Oblique rotation is carried out without regard for maintenance of the interfactor non-correlation restriction operative in orthogonal rotation and reveals the most distinct score clusters.[30]

The two factors existent after both orthogonal and oblique rotations show that the most significant distinct patterns of interrelationship in subjects' scores on these four indicants are based on the two basic measuring techniques used rather than on the two theorized dimensions or aspects of dimensional complexity. The two measures derived from the adjective scale usage analysis covary closely, as do the two measures derived from the similarity judgement analysis. We take the strength of the relationship between dimension number and dimension importance on both measurement devices as strong evidence in support of the assumed theoretical (and not tautological) relationship between the two aspects of the dimensional complexity construct.[31] The results of the oblique rotation show that a very significant degree of relationship exists between the two basic factors (R = .4973). This result indicates the existence of a strong relationship between the types of political dimensional complexity measured by the two basic measurement

TABLE III

FACTOR LOADINGS. RESULTS FROM FACTOR ANALYSIS OF CORRELATIONS BETWEEN FOUR CORE MEASURES N = 42

Dimensional Complexity Criteria	Unrotated Axes Factors			Varimax Rotated Factors			Oblique Pattern Matrix Factors	
	1	2	h^2	1	2	h^2	1	2
No. of Factors (1) Adj. Scale Usage	.822	.477	.903	.928	-.205	.903	.9737	.0487
% of Total Var. (2) Exp. First Unrotated Factor Adj Scale Usage	-.843	-.428	.895	-.911	.255	.895	-.9397	.0126
No. of Factors (3) Similarity Judgements	.882	-.335	.890	.423	-.844	.890	.2222	-.8131
% of Tot. Var. (4) Exp. First Unrotated Factor Similarity Judgements	-.739	.620	.930	-.125	.956	.930	.1429	1.0275
% of Total Variance	67.8	22.7	90.5	47.1	43.3	90.5	Corr. between oblique primary factors = -.4973	

techniques. The four items seem to consist of two distinct but highly related measures (or perhaps two measures of related but distinct aspects) of dimension number, and two distinct but related measures (or perhaps two measures of related but distinct aspects) of dimension importance. The correlations between the two factors along with the inter-item correlations indicate that the items chosen all measure aspects of the same construct in spite of the differences in the general measurement devices.

Since factor analysis showed that the two basic measurement methods seemed to measure slightly different types of political dimensional complexity it seemed advisable to form two separate scales, one based on each measurement technique. At the same time, the strong empirical relationship between the factors was taken to indicate that a scale combining the four indicants derived from the two basic measurement techniques should also be formed.

The Reliability and Validity of the Scales

The three measures were Guttman scaled to test their reliability. With cutting points near the median of the 42 subject distribution, the pair of two item measures scaled highly. The scale comprising the adjective scale usage measures of dimension number and of dimension importance (hereafter SCALE USAGE) produced a coefficient of reproducibility (C. of R.) of .976 and a coefficient of scalability (C. of S.) of .938; the scale comprising the similarity judgement based measures of dimension number and importance (hereafter SIM JUDGE) produced a C. of R. of .929 and a C. of S. of .838. The scale comprising the four

items (hereafter COMPLEX) produced a C. of R. of .845 and a C. of S. of .623. Given the two factorial nature of its items COMPLEX was still taken to be quite reliable.

Subjects were given scores on the three measures according to their place in high, medium and low thirds of the item distributions.[32] Each of the three political dimensional complexity indices distributed the subsample of subjects quite normally across its range.

Two simple measures of types of political complexity can be derived from subject's semantic differential checking styles. In addition to their usefulness as independent complexity variables (in the second part of this thesis) these measures are helpful in the validation of the measures which we have developed. However, care must be taken in the testing of validational hypothesis using these variables because certain checking styles relate logically to the measures that we have developed. The following two validational tests were performed. The first was preceded by the important assumption that "middle checking" of semantic differential scales means that the respondent does not use that adjective pair scale when judging the relevant concept.[33] Given this assumption it seemed reasonable that a high propensity to middle check could be assumed to be characteristic of dimensional simplicity, while a tendency to not use the middle check category could be assumed to be characteristic of dimensional complexity. The correlations in Table IV between SIM JUDGE (and thus COMPLEX) and middle checking are to be expected because of the logical relationship between the two variables. (The more middle checks a subject uses, the smaller is

TABLE IV

CORRELATIONS BETWEEN TWO SEMANTIC DIFFERENTIAL CHECKING STYLE MEASURES OF POLITICAL COMPLEXITY AND THREE INDICES OF POLITICAL DIMENSIONAL COMPLEXITY

PEARSON R'S, N = 42

Complexity Indicant	Semantic Differential Derived Complexity Measures	
	Middle Checking	Discriminating Checking
COMPLEX	-.291*	.289*
SCALE USAGE	-.075	.260*
SIM JUDGE	-.445**	.252*

Significance Levels: **Significant at .01 level of confidence;
*Significant at .05 level of confidence.

Note: Where for example scoring is as follows for a semantic differential scale --

JUST _7_ ; _6_ ; _5_ ; _4_ ; _3_ ; _2_ ; _1_ UNJUST

middle checking is measured by the number of middle checks (4's) in 168 semantic differential judgements. Discriminant checking is measured by the number of non-middle, non-extreme checks (2's, 3's, 5's, 6's) of 168 semantic differential judgements.

the likelihood that there will be a diverse array of distances between the concepts he judges, or that is, more concepts will be seen as the same.) A nonsignificant correlation in the expected direction is the measure of the relationship between SCALE USAGE (which is not related logically to middle checking) and middle checking.[34] This second core measure of political dimensional complexity is not validated by the existence of a strong relationship with the middle checking measure. Secondly, a tendency to check in neither the middle categories nor the extreme categories of semantic differential scales was seen as indicative of a type of complexity akin to that which Schroder _et al_. term _discriminatory_ complexity.[35] Discriminatory complexity is indicative of a propensity to make fine distinctions along judgemental dimensions; intermediate checking should provide a measure of such a tendency. Table IV shows that dimensional complexity as measured by all three scales is related to intermediate checking propensity (or discriminatory complexity) at significance levels near the .05 level of confidence. These results are taken as good evidence of the validity of the political dimensional complexity measures formulated in this chapter.

Summary

In this chapter we have developed three measures of political dimensional complexity. All three--COMPLEX, SCALE USAGE and SIM JUDGE--are derivable from subjects' semantic differential profiles. The combined theoretical support for the measures justifies advancement to the next stage of empirical research where these measures will be used as independent variables.

FOOTNOTES, CHAPTER III

[1] W.A. Scott, "Cognitive Complexity and Cognitive Flexibility," Sociometry, 25 (1962), p. 407. Here researchers determined whether groupings were based on what they considered "relevant" dimensions of information.

[2] Ibid.

[3] James Bieri, "Cognitive Complexity-Simplicity and Predictive Behavior," Journal of Abnormal and Social Psychology, 51 (1955), pp. 263-268; R.M. Lundy and L. Berkowitz, "Cognitive Complexity and Assimilative Projection in Attitude Change," Journal of Abnormal and Social Psychology, 55 (1957), pp. 34-37; G. Kelly, The Psychology of Personal Constructs, Vol. I (New York: Norton, 1955); and L.J. Nidorf and W.H. Crockett, "Cognitive Complexity and the Integration of Conflicting Information in Written Impressions," The Journal of Social Psychology, 66 (1965), pp. 165-169.

[4] Bieri, ibid., and Nidorf and Crockett, op. cit.

[5] W S. Torgerson, Theory and Method of Scaling (New York: Wiley, 1958).

[6] S. Messick, "The Perceived Structure of Political Relationships," Sociometry, 24 (1961), pp. 270-278; D.N. Jackson and S. Messick, "Individual Differences in Social Perception," British Journal of Social and Clinical Psychology, 2 (1963), pp. 1-9; and T.R. Tucker and S. Messick, "Individual Differences in Multidimensional Scaling," Educational Testing Service Research Memorandum (Princeton, N.J., 1960).

[7] J.S. Vannoy, "Generality of Cognitive Complexity-Simplicity as a Personality Construct," Journal of Personality and Social Psychology, 2 (1965), p. 385.

[8] F.W. Koenig and M.B. King, "Cognitive Simplicity and Outgroup Stereotyping," Social Forces, 42 (1964), pp. 324-327, and "Cognitive Simplicity and Prejudice," Social Forces, 40 (1962), pp. 220-222.

[9] Vannoy, op. cit., p. 388.

[10] Ibid.

[11] Ware, E.E., "Relationship of Intelligence and Sex to Diversity of Individual Semantic Meaning Spaces ," unpublished Doctoral dissertation, University of Illinois, 1958, cited by Vannoy, *op. cit*.

[12] Vannoy, *op. cit*., p. 387.

[13] *Ibid*., p. 388. The square root of the ratio of the interaction sum of squares to the total sum of squares was used as an indicant of complexity level.

[14] H.M. Schroder, M.J. Driver and S. Streufert, *Human Information Processing* (New York: Holt, Rinehart and Winston, 1967).

[15] *Ibid*.

[16] C.E. Osgood, G.J. Suci and P.H. Tannenbaum, *The Measurement of Meaning* (Urbana, University of Illinois Press, 1957); P.B. Warr and C. Knapper, *The Perception of People and Events* (New York: Wiley, 1968), Chapter II; and F.N. Kerlinger, *Foundations of Behavioral Research* (New York: Holt, Rinehart and Winston, 1964), Chapter XXXII. Warr and Knapper attend comprehensively to the reliability and validity of the device. After supplementing existent studies with research of their own they conclude that the semantic differential satisfies various criteria of reliability and validity. These authors also include an elucidation of where the semantic differential sits in terms of the requirements which should be fulfilled before the sometimes misused parametric statistical methods are employed. These requirements--that the variance of two samples need be fairly similar, that scales should be of equal intervals and that response distributions should be quite normal--are all judged to be fulfilled or at least fulfillable by the semantic differential.

[17] Torgerson, *op. cit*., pp. 247-248.

[18] Osgood, *op. cit*., p. 91. This distance score is calculated by first finding the difference between the scores for the two concepts on each of the N semantic differential scales, second squaring these differences, third summing these squares and fourth taking the square root of the sum. The formula is $D_{il} = \sqrt{\Sigma_i d_{il}^2}$

[19] The use of this factor analytic technique solves a problem encountered by others using grouping techniques. These researchers, such as Scott, have noted the difficulty of knowing whether groups represent independent dimensions, or groupings at opposite ends of the same dimension. For example, groups based on blackness and whiteness have only one underlying judgemental dimension. Here black and white objects would load on the same factor with loadings of different signs.

[20] Since four adjective pairs load highly on the evaluative dimension and two on the potency.

[21] See for example Warr and Knapper, op. cit., p. 60.

[22] Osgood, op. cit., and Warr and Knapper, ibid.

[23] From a revised version of T.G. Harvey, "Voter Perception and Campaign Stimuli," first presented CPSA meetings, June 1969.

[24] See Footnote 25.

[25] The survey was sponsored by a grant from the University of Alberta and was carried out by Richard Baird, Grant Davy, Susan Harvey, Ted Harvey, Paul Johnston and Bob Melvin. These 318 subjects were those of 358 interviewed who completed the semantic differential section of the interview. In turn these 358 were those of an initial drawn sample of 480 names who were contacted and interviewed. The approximate 25% non-interviewed rate accrued to failures to contact subject, subject refusals to be interviewed, changed addresses and non-existence of subjects.

[26] Because of the pretest problems (such as high subject loss rate and disruption of interviewer-interviewee rapport) encountered when subjects wrote the semantic differential, an oral version of the semantic differential was given to subjects. As noted above in the text we feel that this presentation reduces the likelihood of occurence of artificial semantic differential checking sets which would undermine validity. Thusly presented, as noted, 320 of 358 subjects interviewed managed to complete the entire semantic differential section of the questionnaire. Semantic differential non-completion was the result of three factors given here in order of importance--lack of time, illiteracy and functional blindness (a response card was held). Although no exact figures are available it can be estimated that the overall dropout rate due to factors such as illiteracy which might be related systematically to political simplicity is about ten per cent. While the expected differences in political dimensional complexity should reveal themselves in this sample it is possible that these sampling losses may cause the sample to be skewed in a complex direction, that is to be on the average more complex than the population actually is. A more detailed description of the sampling and interview procedures is given by T.G. Harvey in his paper, "Voter Perceptions and Campaign Stimuli," op. cit., pp. 16-18.

[27] For a comprehensive explanation of factor analysis see R.J. Rummel, "Understanding Factor Analysis," Conflict Resolution, XI (4), p. 467.

[28] The distance program used was developed by T.G. Harvey. It weights each adjective pair equally and produces a matrix (here 24 x 24) of scaled distances ranging from -1 to +1.

[29] The results were first analyzed in order to ascertain whether or not subjects were consistent in the styles or abilities which they applied to the judgement of person, party and issue position concepts presented to them. To this end correlations between five measures of dimension number are presented here. These show the number of dimensions (factors) correlations with each other for (1) adjective pair usage across all 24 concepts, (2) analysis of adjective pair usage when subjects' judgements on only 10 person concepts are considered, (3) analysis of adjective pair usage when subjects judged 9 issue position concepts, (4) analysis of distance judgements between all 24 concepts and (5) analysis of distance judgements between 13 person and party concepts. These results bolster confidence that there is judgemental consistency across concepts and that analysis of judgements across 24 concepts will yield good measures of political dimensional complexity. The important correlations between (1) and (2) and (3), and between (4) and (5) are deemed very significant of this consistency.

Correlations Between Dimension Number Measures When Judgements of All Concepts, All Person Concepts, All Issue Concepts and All Person-Party Concepts are Considered. N = 42

	(1)	(2)	(3)	(4)	(5)
Number of Factors (1) Adj. Pr. Based with all concepts considered Eig. gt. .90	1.000				
Number of Factors (2) Adj. Pr. Based with 10 person concepts considered Eig. gt. 1.0	.585^{+}	1.000			
Number of Factors (3) Adj. Pr. Based when 9 issue position concepts considered Eig. gt. 1.00	.534^{+}	.283	1.000		
Number of Factors (4) Distance judgement with all 24 concepts considered Eig. gt. 1.00	.550^{+}	.641^{+}	.420**	1.000	
Number of Factors (5) Distance based with 13 persons and party concepts considered Eig. gt. 1.00	.295	.546^{+}	.261	.581^{+}	1.000

Significance levels: +Significant at .001; **Significant at .01; and
*Significant at .05.

[30] See Rummel, op. cit., p. 467.

[31] The strong relationship between the two pairs of measures of the same derivation can in part be traced to the fact that both in terms of the theoretical formulation and the logic of factor analysis, it is quite reasonable (or almost tautological) that the dimensionally simple person's low dimension number will be supportive of single dimension importance. But earlier the point was made that it is not possible to assume that the dimensionally complex person relies little on his important factors, he may still logically rely heavily on one dimension and reveal one heavy factor. Therefore the strength of this relationship is taken to indicate a theoretical and not only a logical relationship.

[32] Thus for example a subject among the third of the sample which forms the most dimensions from adjective scale usage will be given a score of 3 to begin with. A score in the middle third of the scale usage dimension importance measure will warrant an addition of 2 to the SCALE USAGE scores of either of these subjects, a score in the low third (those who rely least heavily on their most important dimension) will warrant an addition of 3. That is lower scores on dimension importance earn higher scores on the three indices.

[33] The necessity of making this assumption points out the advisability of including a "don't know" semantic differential category in further research of this type. With this inclusion middle checking would explicitly be taken to mean that the subject judges the concept on this scale but in this instance does not feel that the concept should be judged as closer to one adjective pair extreme than the other. For example, a "don't know" on a left-right dimension would mean I do not use this judgemental scale when judging this concept while a middle check would mean I do not judge this concept to be either left or right.

[34] The correlations between the individual scale items and these validators are as follows:

Check Style	Scale Usage Number	Scale Usage % of Total	Sim. Judge Number	Sim. Judge Per cent of Total
Middle	-.060	.076	-.574	.692
Discrim.	.226	-.194	.359	-.349

[35] Schroder, et al., op. cit., pp. 174-179.

CHAPTER IV

AN INTRODUCTION TO THE SECOND PART OF THE THESIS

The personality and ability correlates of political dimensional complexity should be of interest to the political scientist. In the second part of this thesis we report the results of an empirical investigation into various correlates of the political dimensional complexity constructs developed in Chapter III. Before this is done several things should be said about the nature and form of this exercise.

The Political Dimensional Complexity Measures

Appendix A contains tables which parallel the important ones presented in Chapter III. They show that the four component indices of dimensional complexity as used by the full sample relate to one another, and load on factors, similarly as in the preliminary investigation subsample. As well, in the full sample the three measures are validated in the same way by the crude checking measures of complexity introduced in the last chapter. Appendix A also includes tables which gives the full sample means, reliability coefficients, and skewness for the three core indicants, along with correlations between these measures.

Although SIM JUDGE and SCALE USAGE do relate very significantly (R = .378) evidence is often encountered below which indicates that these two indicants measure quite discriminant kinds of political dimensional complexity. This evidence, which is manifested in the form of correlations of quite different magnitude (and in some cases of different directions) between the two measures and some third variables makes

necessary a double pronged approach in some of these final chapters. At the same time that the relationships between political dimensional complexity are reported and interpreted it is necessary to interpret differences in the ways the two measures relate to third variables, and to build a typology descriptive of the differences in the type of complexity-simplicity measured by the two constructs. Thus, for example, instead of being able to say straightforwardly that more dimensionally complex people are more interested in politics, we must say that persons measured complex by SIM JUDGE are more interested than more simple SIM JUDGE persons, and that persons judged more complex on SCALE USAGE are not more or less interested than their more simple counterparts. Unfortunately this approach perhaps lessens the impact of what the researcher considers to be some very significant findings.

Our thoughts about the natures of the political dimensional complexity measured by SIM JUDGE and SCALE USAGE, stated here so as to help the reader avoid later confusion, are as follows. SIM JUDGE we take to measure a practised or applied political dimensional complexity; it measures an actual usage of political meaning giving dimensions to make political distinctions. Subjects who are complex on SIM JUDGE actually do make more distinctions between the concepts of the campaign than SIM JUDGE simple subjects; both the logic of the measure and certain relationships exposed below support this view. The nature of the complexity-simplicity measured by SCALE USAGE is more difficult to pin down. We generalize and say that SCALE USAGE measures not an applied complexity but an ability for complex political information processing in certain situations. The person who is judged to be complex on SCALE USAGE

exhibits the possession of more political judgemental dimensions, and shows that he uses them in the analytic judgement task given him, but not that he uses them when actually sorting and categorizing the set of campaign concepts.

Since the two core measures, SIM JUDGE and SCALE USAGE, frequently correlate differently with third variables it often seems best to concentrate on these correlations and their meaning rather than on the third variable correlation with COMPLEX, the hybrid measure combining SIM JUDGE and SCALE USAGE components. While parsimony in the reporting of the complexity correlate results would certainly have been achieved if only the COMPLEX measure had been brought to this stage of research, a great deal of valuable insight into the nature of the complexity measured by the two base devices is provided by their inclusion.

By far the most consistent predictor of dependent variables among complexity measures is the crude measure of adjective scale usage provided by the adjective pair middle checking sum. Middle checking theoretically should be expected to reflect in SIM JUDGE level and empirically this is proven to be the case by the strong full sample SIM JUDGE--middle checking correlation (R = -.4700). Thus, to an extent SIM JUDGE-third variable correlations or associations mirror the existence of a middle checking-third variable correlation. But the existence, in the findings to be set forth, of several instances where SIM JUDGE and middle checking correlate very differently with third variables serves to bolster our theoretical faith that SIM JUDGE (and the SIM JUDGE component of COMPLEX) measure a more broad aspect of

political dimensional complexity than that indicated by middle checking. The researcher has confidence that both core indicants are measuring integral aspects of political dimensional complexity.

The Results--Organization

The results will be organized into five short chapters. Chapter V will investigate the relationships between political dimensional complexity and indicants of general political knowledge or sophistication. The next chapter will explore the background correlates of political dimensional complexity in an attempt to determine if certain complexity or simplicity levels are significantly the province of one population, or societal group or categorization. The next, Chapter VII, will explore certain attitudinal correlates of political dimensional complexity. An Appendix to this chapter reports the degree of association or relationship found between certain political activity indicants and complexity. Chapter VIII will, to the extent possible, explore the relationships between the actual campaign information intake processes of individuals and political dimensional complexity in order to learn whether or not dimensionally complex and simple subjects exhibit observable differences in their political or campaign information intake processes. The final chapter tests an hypothesis which relates political attitude change threshold to political dimensional complexity.

The Dependent Variables

The various dependent or third variables which are explored will be introduced as results are presented. A political and election campaign interest variable is used as a control before it is introduced.

The political interest scale comprises two items asking subjects about the degree of (a) election, and (b) general national political interest.

The Sample

The final sample which we have to work with contains 318 subjects. These were those of an initial group of 358 interviewed (initial drawn sample was 480) who completed the semantic differential section of the questionnaire. (The sample size varies when different dependent variables are dealt with.) The sample, as will be noted, seems on the whole to be more politically interested than normal. This probably is caused by the fact that a greater proportion of non-interested than interested subjects are likely to be in the subject-lost-categories. Both major subject-loss reasons--failure to be interviewed and failure to complete the semantic differential section--would seem more likely to take their toll among less interested subjects. Given the skewed interest distribution it is possible that our sample on the whole is also more politically complex than normal. Certainly, failure to complete the semantic differential section would seem a greater likelihood among less complex subjects. It is possible that some of our results are biased by the fact that lower extremes of some variable distributions may contain fewer subjects than actually should be there. Thus, for example, the most simple or most disinterested subjects in the population may not be represented in our sample. But this sort of problem arises in all survey research.

The sample contains appreciably more women than men. This we expect is because women are more likely to have been available for interviews and more likely to have had time to complete the semantic

differential sectors of the questionnaire.

The Statistical Tests

Correlations are quite consistently used as the basic test statistic. Pearson product moment (R) correlations are relied upon most extensively. Because of the ordinal nature of our scales, a more suitable correlational statistic, the Kendall rank order (Tau) correlation is reported quite extensively. But the amount of computer time needed for Kendall Tau calculations is great, particularly when scales have more than a few ordinal classifications, and this statistic cannot be reported in all cases. Where the assumptions necessary for proper use of the parametric correlational techniques (particularly normalacy of distributions) are not met the technique noted below is relied upon and/or the correlations reported are treated as possibly unreliable. Correlational techniques are backed by the usage of tests of the significance of means (t-tests) where possible. In these cases either the dependent or independent variable distributions are divided into halves or high and low portions and differences in the mean scores on the other variable measure are tested for significance. Most results were obtained using the SPSS computer package.

CHAPTER V

POLITICAL DIMENSIONAL COMPLEXITY AND POLITICAL KNOWLEDGE

This chapter reports the empirical relationships which were found to exist between political dimensional complexity level and level of political or campaign knowledge. The intent here is to explore relationships between complexity and political or campaign knowledge in order to determine whether or not political dimensional complexity-simplicity level is usually matched by certain levels of political knowledge or overall sophistication. It seems reasonable to expect that dimensionally complex political or campaign information gathering should lead to heightened political or campaign knowledge. The complexity of subjects should reveal itself in an ability to perform well on the "tasks" used in this chapter as criterion of political knowledge or sophistication.

The validational nature of certain of our planned endeavors was noted in the introductory chapter; the substance of this chapter can be placed in this category. Statistical evidence showing that political knowledge does not correlate positively with political dimensional complexity would have to be treated as somewhat disconfirmatory of the validity of the complexity constructs used here; evidence confirming the existence of such positive covariation should, if achieved, allow some confidence in the validity of the complexity measures.

The Edmonton Centre respondents were not asked questions which allow the researcher to judge their straightforward knowledge of political facts. From the questionnaire, however, six indicants which together allow a quite encompassing judgement of subjects' level of political knowledge or sophistication can be derived. These are introduced, and the way they relate to political complexity is explicated in six sections.[1]

Ability to Predict Election Outcome and Political Dimensional Complexity

An ability to predict both the national and constituency election outcome should relate to an awareness of the campaign and should relate closely to a general political knowledge and awareness. We expect political dimensional complexity to positively correlate with this ability.

In the Edmonton Centre survey subjects were asked to predict the national (party) election winner, the constituency (party) winner, and whether or not the party which won nationally would win a majority of seats. These three items were used to form a scale of election prediction skill. Subjects were given one point if they predicted the Liberals as national winners, another if they predicted the Conservative candidate as winner in their constituency and a third if they predicted the Liberal's national majority victory.[2] Subjects in the post-election interview wave were excluded for obvious reasons. This scale distributed subjects fairly normally across its range and Guttman scaled with a Coefficient of Reproducibility of .850.

The results reported in Table V indicate that election prediction ability correlates significantly and in the expected direction

TABLE V

CORRELATIONS BETWEEN POLITICAL DIMENSIONAL COMPLEXITY INDICANTS AND MEASURES OF CAMPAIGN KNOWLEDGE OR SOPHISTICATION. PEARSON R'S, KENDALL TAUS, N VARIES

Complexity Indicants	Ability to Name Issues (N = 316)		Outcome Prediction Ability (N = 173)		Issue Position Assessment (N = 316)		Concept Awareness (N = 316)
	R	Tau	R	Tau	R	Tau	R
COMPLEX	.1232^{+}	.0952^{+}	.1772^{+}	.1413^{+}	.1922^{++}	.1537^{++}	-.4179^{++}
SIM JUDGE	.1991^{++}	.1730^{++}	.1286**	.0986**	.2283^{++}	.1889^{++}	-.4996^{++}
SCALE USAGE	-.0046	-.0125	.1691^{+}	.1459^{+}	.0837*	.0786**	-.1789^{++}
Middle Scale Checking	-.2531^{++}		-.0505		-.2786^{++}		
Discriminant Scale Checking	.0724*		-.0056		.1839^{++}		

Significance levels: $^{++}$-.001 level of confidence; $^{+}$-.01 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

Notes: Where Tau is not reported computations were too difficult due to the large number of scale categories.

The minus correlations with the concept awareness measure are due to the fact that lower scores on this measure indicate a greater awareness.

with each of the three complexity indicants. COMPLEX and SCALE USAGE scores both covary closely and positively with prediction scores, SIM JUDGE scores do not vary as closely.[3] The mean predictive ability level of the (approximate) upper half of all three complexity distributions is statistically greater at better than the .05 confidence level than the mean level of below median complexity subjects.[4]

The possibility that political complexity and election prediction ability might relate through the intermediacy of a joint relationship with political interest led the researcher to control interest level. When prediction ability and complexity scores of only interested subjects are correlated, the pattern of relationships shown in the first part of Table VI is revealed. The size of correlations remain about the same as in the total sample although slightly lower levels of statistical significance are attained in the smaller sample. In the female subsample, where, as shown by finding reported in the next chapter, the overall complexity level is significantly lower, the overall pattern of correlations is constant; complexity is still a good predictor of election prediction skill. In the male subsample correlations are substantial but, with a smaller sample size, not statistically significant; complexity and predictive skill do not covary as closely in the male sample as in the female.

These correlations show that, regardless of the political interest level or sex of subjects, there is strong positive covariation between ability to predict election outcomes and campaign or political dimensional complexity. More complex people are better able to predict

TABLE VI

CORRELATIONS BETWEEN POLITICAL DIMENSIONAL COMPLEXITY AND THREE POLITICAL KNOWLEDGE INDICANTS AMONG SUBJECTS IN CERTAIN SUBPOPULATIONS OF THE TOTAL SAMPLE. PEARSON R'S, N VARIES

Knowledge Indicants	Politically Interested			Politically Interested men		
	COMPLEX	SCALE USAGE	SIM JUDGE	COMPLEX	SCALE USAGE	SIM JUDGE
Predictive Ability	.1589**	.1587**	.1059	.1083	.1075	.0705
Assessment Accuracy	.2089^{++}	.1176**	.2193^{++}	.1654*	.0976	.1685*
Ability to Name Issues	.0742	-.0311	.1428**	.0963	.0029	.1458*

Knowledge Indicants	Men			Women		
	COMPLEX	SCALE USAGE	SIM JUDGE	COMPLEX	SCALE USAGE	SIM JUDGE
Predictive Ability	.1340	.1112	.1133	.2071**	.2132**	.1306*
Assessment Accuracy	.1697**	.0820	.1954^{+}	.1487**	.0369	.2009^{+}
Ability to Name Issues	.2088^{+}	.0785	.2598^{+}	.0221	-.0924	.1225*

Significance levels: $^{++}$-.001 level of confidence; $^{+}$-.01 level of confidence; **-.05 level of confidence; *-.10 level of confidence

the outcome of the election, more simple people less able. These findings point to an instance where more politically dimensional complex persons use their "ability" to solve what can be conceived of as a political problem.

Party Issue Position Assessment and Political Dimensional Complexity

An ability to correctly assess the positions which political parties take on election issues should also indicate the subject's political knowledge or sophistication. And again it is expected that this ability should relate to political dimensional complexity.

In order to test for the existence of a relationship between this indicant of sophistication and political dimensional complexity a short scale to measure party issue position assessment ability was formed from items included in the Edmonton Centre survey. Subjects answered a series of question of the type: Which party is most (or least) in favor of providing Medicare (or satisfying Quebec)? A group of political scientists were able to agree that two items were definitively answerable (at the time of the 1968 election). These two items were: (a) Which party is most in favor of reducing U.S. influence in Canada? and (b) Which party is least in favor of supporting the U.S. in Vietnam? The correct answer to both was agreed to be NDP. A third item--Which party is least in favor of providing Medicare?--was added since it seemed sensible to have at least one more item and particularly to have one item relating to a party other than NDP. Most of those polled agreed Progressive Conservative party was the correct answer to this third question. Thus constructed, the scale was judged reliable; it produced a coefficient of reproducibility of .816. In the total sample of 316, over a third failed all three items, while

slightly less than a third assessed only one issue position correctly.[5]

Ability to accurately assess party issue positions correlates significantly with each of the three complexity measures. The magnitudes of the Pearson R's and Kendall Taus found can be seen in Table V. In addition, both dimension usage and discriminant checking measures correlate at the .001 confidence level with issue position assessment ability. These correlations are supported by difference in means test results. The difference in issue assessment accuracy mean scores of the high and low halves of the SCALE USAGE distribution is positive and significant at the .10 level of confidence; differences between high and low sample halves on the SIM JUDGE and COMPLEX measures are positive and significant at better than the .005 confidence level.[6]

Thus, in the total sample, political dimensional complexity relates positively and significantly to an ability to accurately assess party issue position. Again it seems advisable to ascertain whether or not this relationship is the result of a joint complexity and perceptual accuracy relationship to a third variable--political or election interest. Table VI shows, in partial answer, that in the subsample comprising 216 most interested subjects, complexity and perceptual accuracy still correlate closely and positively. Even though interested subjects are much more accurate issue position assessors than noninterested subjects,[7] the complexity-issue assessment accuracy relationship does not appear to be product of joint covariance with interest level. _Nor_ does the relationship found seem to be an indirect one based on the fact that men, who are more politically complex, are also more accurate at assessing

political parties' issue positions. Although women are much less adept at assessing issue positions,[8] political dimensional complexity covaries closely with issue assessment accuracy in both male and female subsamples. Finally, in the subsample of individuals who are both male and politically interested, substantial correlations persist between complexity and issue perception accuracy.

A strong relationship has been shown to exist between political dimensional complexity and another proposed indicant of political knowledge or sophistication; once again results support the existence of the expected relationship and serve to partially confirm the validity of each of the base complexity constructs. Political dimensional *simplicity* seems to manifest itself in a significant *inability* to accurately assess issue positions of political parties at the time of an election. Once again we have evidence that those of greater political dimensional complexity reveal their information gathering ability in terms of a skill at solving a political information processing "problem."

Awareness of Campaign Issues and Political Dimensional Complexity

The ability to cognize the important issues of the election campaign should indicate a general campaign or political knowledge and awareness. More politically complex persons, processing information along a greater number of dimensions, should be more aware of campaign issues.

Prior to being asked about parties' issue positions respondents were asked to give their views as to the important issue facing Canada and to list other issues considered important. Here we use the number

of issues which respondents were able to name as a basic measure of issue awareness. About ten per cent of subjects could name no issues, twenty-two per cent could name but one, while another thirty-five per cent were aware of at least three issues of importance to Canadians.[9]

Complexity as measured by COMPLEX and SIM JUDGE correlates significantly and in the expected direction with issue awareness. The greater the type of complexity measured by COMPLEX and SIM JUDGE, the greater the ability to name Canada's political issues. Tests of differences in means support these findings.[10] On the other hand, adjective scale usage based complexity correlates slightly in a negative direction with awareness of issues.

Table VI shows that the relationship between SIM JUDGE and issue awareness level maintains at significant levels in subsamples comprising only males, only females, only the most interested subjects, and only the male most interested subjects. A fairly strong positive correlation between issue awareness and SCALE USAGE exists in the male sample, although it is not significant. An interpretively difficult negative correlation between SCALE USAGE and the awareness variable which nears significance at the .10 confidence level is to be noted for its occurrence in the female subsample. This result probably means that some females who have the type of complexity which allows them to score highly on SCALE USAGE often do not apply this complexity in actually learning the campaign issues, while others learn the issues without the use of the abilities which allow them to score highly on SCALE USAGE.

These findings lead to first questions about the nature of the

complexities measured by the SCALE USAGE and SIM JUDGE measures and hint at partial answers. It can be theorized that SCALE USAGE measures a type of complexity which is operative in some political judgement situations (such as when the task is to judge concepts on semantic differential scales), but which does not necessarily reveal itself in campaign information intake activity. SIM JUDGE is a measure of the dimensions used to actually discriminate a representative set of political concepts or a measure of dimensional complexity in practice or application. SCALE USAGE may better be categorized as a measure of the subject's possession of political judgement dimensions with which discrimination may be carried out in certain situations and not as a measure of practised political dimensional complexity.

Certainly it is the case that a different type of political knowledge is reflected by an ability to name issues than is reflected by an ability to predict election outcomes or perceive party issue positions. The latter abilities are closer to analytic or problem solving skills and have been seen to be predicted equally well by either of the two basic complexity constructs. The former type of ability seems to involve a more basic political knowledge and has been seen to be predicted only by SIM JUDGE. This pattern of correlations supports the hypothesis, stated in the previous paragraph, that SCALE USAGE is a measure of a type of unapplied political judgement complexity and SIM JUDGE is a measure of applied political information processing complexity.

The three knowledge or sophistication indicants dealt with to this point have been particularly useful validational variables because

of their bases in questions and items in the nonsemantic differential sections of the survey questionnaire. The remaining portion of this chapter will report complexity relationships with three knowledge or sophistication indicants which are based in the semantic differential responses of subjects. Because of the common foundations of the dependent and independent variable measures in the semantic differential it seems advisable to treat the correlations to be reported with a certain amount of caution.

Concept Awareness and Political Dimensional Complexity

Another hypothesis concerning the political awareness of subjects can be tested. Individuals with greater political or campaign knowledge should be aware of more of the issues and personages of the campaign. The greater information gathering ability of individuals of greater political dimensional complexity should mean that these individuals are more likely to have attained knowledge of the concepts of the campaign.

A semantic differential measure of concept awareness is arrived at by counting the total number of concepts (of twenty-four) where no subject semantic differential adjective pair checks diverge from the middle category. A concept thus checked is assumed to have no meaning to the subject and to not be the object of an election-relevant attitude.

The very substantial correlations reported in Table V between SIM JUDGE and COMPLEX, and concept awareness level are suspect since, as has been noted, SIM JUDGE level (and thus COMPLEX level) is inflated by middle checking. There will be no distance between concepts with no

meaning, thus logically the more concepts which are nonsalient to a subject, the greater are the chances that his SIM JUDGE complexity level will be low. The SCALE USAGE construct, which is not logically related to middle checking, does correlate at the .001 confidence level with concept awareness (R = - 1796). We take this result to be another piece of evidence that dimensionally complex subjects are more politically knowledgeable.

Ideological Judgement Capacity and Political Dimensional Complexity

Next we consider the nature of the relationship between political dimensional complexity and an indicant of the political sophistication construct proposed in The American Voter: level of ideological conceptualization.[11] Here we address the question: Are politically complex subjects more likely than simple ones to use the left wing-right wing dimension to classify concepts or, that is, to think or conceptualize about politics in ideological terms? We expect that they should be.

Where the measure of conceptual sophistication used by Campbell *et al*. is based in a scheme whereby subjects are classified on the basis of discursive responses, the measure used here is derived from semantic differential responses. It is simply a measure of the extent to which subjects use the left-right adjective pair scale when judging the twenty-four campaign concepts; the higher the number of middle checks on the left-right scale the less judgements are made on this scale.[12]

Again care must be taken in the interpretation of results. The logic of the SIM JUDGE measure and the fact that it is influenced strongly

by middle checking of scales renders correlations between it (also COMPLEX) and the measure of left-right dimension usage unreliable. But correlations between ideological judgement capacity and SCALE USAGE measured political dimensional complexity should not be thus biased. Here attention is accorded to this measure.

The results shown in Table VII support the sensibility of caution. The SIM JUDGE and COMPLEX correlations with ideological judgement seem exaggerated. Complexity as measured by SCALE USAGE, however, covaries positively with the left-right usage distribution. In the female sample, where the mean nonusage of the left-right scale is over two scales higher than in the male sample, this covariation is not pronounced enough to be significant. But in the male population it is; SCALE USAGE measured dimensional complexity and left-right scale usage correlate significantly at the .03 confidence level (R = -.1555). Twenty per cent of the sample judge no concepts along the left-right scale, thirty per cent use the left-right scale to judge at least one-half of the concepts. The mean SCALE USAGE complexity level of the first group is 2.65, the mean SCALE USAGE complexity level of the second group is 2.98. This difference is significant at the .05 level of confidence. If the SCALE USAGE complexity measure and the measure of left-right scale usage can be taken as independent of one another, then we can say that there is good evidence that, particularly among males, there is a relationship between political dimensional complexity and tendency to judge political concepts along a left-right continuum.[13] This latter tendency, we think, indicates a type of political sophistication.

TABLE VII

CORRELATIONS BETWEEN POLITICAL DIMENSIONAL COMPLEXITY AND TWO IDEOLOGICAL ORIENTATION VARIABLES. PEARSON R'S, N VARIES

	Left-Right Scale Usage (N = 316)	Independence of Ideological Judgement (N = 185)
COMPLEX	-.2786^{++}	-.4701^{++}
SCALE USAGE	-.0594	-.5799^{++}
SIM JUDGE	-.3867^{++}	-.2193^{++}

Significance Levels: $^{++}$-.001 level of confidence.

Note: The negative correlation between complexity and Left-Right Scale Usage mean that more complex persons check in the middle category on the Left-Right Scale less often, the negative correlations between Independence of Ideological Judgement and complexity mean that left-right and just-unjust scale usage correlates less highly among more complex subjects.

Independence of Ideological Judgement and Political Dimensional Complexity

Research is also carried out in order to see whether or not, among those who judge concepts on the left-right continuum, greater political dimensional complexity is matched by a nonpervasive ideological orientation, or by what might better be termed an independence of ideological from evaluative political judgement.

The hypothesis tested here is more exploratory than validational. That is, its success is not as crucial to the validation of the constructs as was the success of those tested earlier. Still, independence of ideological from evaluative judgement is felt to be indicative of a certain type of political sophistication.

The size of the absolute correlation coefficient between use of the left-right and just-unjust adjective pair scales is taken as a measure of the degree of independence between ideological and evaluative judgement.[14] It is expected that the judgements of some people on these two scales will covary closely. What is judged just by these individuals will usually be judged politically left (or right) as well. These will be taken as the people whose political judgements are not characterized by an independence between evaluative and ideological judgemental dimensions. These people use left or right as synonymns of good or bad when evaluating political concepts; they are the non-analytic, subjective users of the left-right judgemental dimension.

Other individuals are expected to use the two adjective pair scales independently, to make ideological and evaluative judgements which

are not influenced by one another. These people use the left-right scale analytically and objectively, this tendency we take to be indicative of a non-ideological or at least a weak ideological orientation.

The sophisticated person, we propose, should be more objective and analytic in his ideological or left-right judgements. Here we test the hypothesis that political dimensional complexity relates to this measure of independence of ideological from evaluative judgement.

In this case the dependent variable measure is logically related to the SCALE USAGE complexity measure. The size of the correlation between the just-unjust and left-right scales has a direct effect on SCALE USAGE--the smaller this correlation is the greater is the chance that factor analysis of adjective pair usage will reveal an extra factor. An extra factor would cause SCALE USAGE complexity level to be larger. The SIM JUDGE measure of complexity seems to be not in this way biased and is used as the complexity indicant here.

Among the 185 subjects who use the left-right judgement scale at least one-third of the time, political dimensional complexity as measured by SIM JUDGE correlates strongly with a tendency to make judgements of justness and ideological position (leftness-rightness) independently (R = -.2192).[15] This limited evidence points to the conclusion that more complex individuals are more analytic and more likely to make their evaluative and ideological judgements independently than simpler persons who have a tendency to use the left-right dimension in a way which parallels their use of the evaluative adjective pair scales.

Summary

Had this researcher designed a questionnaire exclusively for the purpose of this undertaking, the more comprehensive validational testing of hypothesis suited to exploratory work with the construct could have been carried out using varied knowledge and ability indicants. The measures derivable from the available data have, however, provided a satisfactory battery of knowledge or ability variables.

In summary it can be said that the results reported in this section represent good evidence of the existence of a firm relationship between political dimensional complexity and forms of political knowledge, ability or sophistication.[16] The first four relationships explicated in this chapter reveal that more complex subjects have a more encompassing political knowledge. This we see as related to both the greater disposition and ability of complex subjects to process political information. As well, the first two relationships dealt with indicate the greater ability or skill of politically complex subjects to solve political "problems." The final two relationships explicated provide some evidence of the relationship of political dimensional complexity to specific types of political sophistication.

In only one instance has evidence which could possible be considered as invalidational of a complexity construct been presented, that being in the case of the SCALE USAGE-issue awareness correlation. In this case the evidence has been treated not as invalidating but rather as pointing to an important difference between the complexities which are measured by SCALE USAGE and SIM JUDGE. In eight of nine

instances where complexity measures were correlated with non-semantic differential derived political knowledge or sophistication constructs, significant amounts of covariance in the expected (validating) direction were found to exist.

CHAPTER V, FOOTNOTES

[1] Below are given the correlations between the first four indicants of political knowledge or sophistication dealt with in Chapter V. Pearson R's are given, N's vary as stated. The significance levels are below the table.

	Ability to Name Issues (N = 316)	Outcome Prediction (N = 173)	Assessment Issue Position (N = 316)	Concept Awareness (N = 316)
Ability to Name Issue		.1830^{+}	.2796^{++}	-.2972^{++}
Outcome Prediction			.1294**	-.1168*
Assessment Accuracy				-.3045^{++}

Significance Levels: $^{++}$-.001 level of confidence; $^{+}$-.01 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

[2] Fewest subjects correctly predicted the constituency winner as Conservative.

[3] It is to be noted that this is an instance where SIM JUDGE and middle checking (dimension usage) very differently predict a third variable.

[4] The mean predictability scores and t scores are as follows for low and high halves of complexity distributions:

				SIG
COMPLEX	low $\bar{m}$ = 1.53	high $\bar{m}$ = 1.79	t = 2.37	(.01)
SIM JUDGE	low $\underline{m}$ = 1.56	high $\underline{m}$ = 1.76	t = 1.80	(.05)
SCALE USAGE	low $\bar{m}$ = 1.53	high m = 1.85	t = 2.81	(.005)

[5] Less than one subject in five was very accurate in his assessment of party issue position, or that is, perceived all three issue positions correctly. This is to be compared with the one highly accurate issue perceiving voter found in three by Berelson, Lazarsfeld and McPhee, Voting (Chicago: University of Chicago Press, 1954), p. 233.

[6] The mean issue assessment accuracy scores and t scores are as follows for low and high halves of complexity distribution:

				SIG
COMPLEX	low $\bar{m}$ = 1.03	high $\bar{m}$ = 1.29	t = 2.28	(.005)
SIM JUDGE	low $\underline{m}$ = 0.96	high $\underline{m}$ = 1.41	t = 3.84	(.0005)
SCALE USAGE	low m = 1.08	high m = 1.24	t = 1.33	(.10)

[7] The mean assessment accuracy score of interested subjects is 1.29, of not interested subjects .78. The difference is significant at the .0005 level of confidence.

[8] The mean assessment accuracy score of men is 1.40, of women .92. The difference is significant at the .0005 level. Sex and assessment accuracy correlate strongly. R = -.2199 (.001).

[9] On the average subjects could name just over two issues.

[10] Issue naming ability means and t scores are as follows:

				SIG
COMPLEX	low $\bar{m}$ = 1.99	high $\bar{m}$ = 2.23	t = 1.82	(.05)
SIM JUDGE	low $\bar{m}$ = 1.98	high $\bar{m}$ = 2.25	t = 1.19	(.025)

[11] Angus Campbell, et al., The American Voter (New York: John Wiley and Sons, 1964), Chapter IX.

[12] This variable has potential usefulness as an independent variable in other studies and we consider this a good measure of the tendency.

[13] The existence of a strong correlation (R = .2365) between party issue position assessment accuracy (a variable which all three complexity measures related to) and left-right usage adds some credibility to this conclusion. But predictive ability does not relate in the same way.

[14] Just-unjust is used because it is the strongest representative of the evaluative dimension running through all subjects' adjective pair usage patterns.

[15] Other correlations are shown in Table VII.

[16] In one sense more complex subjects might be argued to be less realistic and less adept at solving a political problem. While evidence is quite clear that M.P.'s often do little of importance, in both male and female samples more complex subjects show a pronounced tendency to indicate the characteristics of candidates as the thing they consider most important in deciding to vote. About equal proportions of subjects from complex and simple halves (on SIM JUDGE) consider party's viewpoint and specific issues as the most important factors. Twenty-four per cent of complex and twelve per cent of simple subjects consider candidate characteristics the most important factor; while twenty-eight per cent of simple subjects and nineteen of the complex consider leader characteristics as the important factor.

CHAPTER VI

POLITICAL DIMENSIONAL COMPLEXITY AND BACKGROUND CHARACTERISTICS

This chapter explores the extent to which political information processing abilities and tendencies differ between subgroups of the population. The findings are set forth in four sections below.

Sex and Political Dimensional Complexity

Females are revealed to be significantly less politically dimensionally complex in their perception of the campaign concepts than males in our sample of 177 women and 141 men. Table VIII shows that both Pearson product moment and Kendall rank order correlations in this direction are significant at the .001 confidence level when sex and the complexity indices COMPLEX and SIM JUDGE are correlated. The SCALE USAGE complexity distribution is not predicted quite as well by sex. Difference in means (t) tests support these findings, showing that the complexity levels of men on all three measures are significantly greater than those of women.[1] Table VIII also shows that very significant correlations are found between sex and the checking style complexity measures, middle checking and discriminatory checking.

These relationships exist in spite of several things in light of which they are particularly interesting. First, mean scores on scales to be introduced more fully later indicate that women in our

TABLE VIII

CORRELATIONS BETWEEN THE BACKGROUND VARIABLES--AGE, SEX AND EDUCATION--AND POLITICAL DIMENSIONAL COMPLEXITY
PEARSON R'S, KENDALL TAUS, N VARY

Complexity Indicants	Sex (N = 318)		Education (N = 319)		Age (N = 316)	
	R	Tau	R	Tau	R	Tau
COMPLEX	-.1745^{++}	-.1500^{++}	-.0518	.0164	-.0820*	-.0405
SIM JUDGE	-.1696^{++}	-.1502^{++}	-.0368	.0272	-.0180	.0002
SCALE USAGE	-.1180**	-.1000^{+}	-.0499	.0102	-.1227**	-.0725**
Middle Scale Checking	.1648^{++}		-.0191		-.0593	
Discriminant Scale Checking	-.1359^{++}		-.0554		-.0865*	

Significance Levels: $^{++}$-.001 level of confidence; $^{+}$-.01 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

sample: (a) claim to be as interested as men in the election campaign and in politics generally,[2] (b) claim to have discussed the campaign with family and friends to as great an extent as do the men, (c) claim to have learned as much about the campaign from radio, T.V. and newspaper sources as do men, (d) reveal that they have received more personal and literature contact from candidates than do the men, and (e) exhibit about as great a degree of political efficacy as men. In terms of actual political activity, results show that women are nearly as likely to have voted in the four most recent Federal and Provincial elections as men, and nearly as likely to have voted, or to have planned to vote, in the election culminating the campaign under study.[3]

The election campaign seems to have been as salient to women as to men in our sample. But in spite of their political interest and involvement, women have processed the information of the campaign in a more dimensionally simple fashion.

Secondly, it should be noted that these results are obtained even though the average year level of education of females in our sample is a year in excess of that of males.[4] Thus lack of training or intellectual exercise cannot be said to discriminate in favor of greater female political simplicity. If education relates directly to political dimensional complexity or does so through the intermediacy of intelligence, then this relationship cannot be said to affect the sex-complexity relationship.

Substantial correlations in the same direction are constant when age and social and economic status are controlled for.[5] It was thought

wise to introduce these controls because of the predominately working class nature of the survey population. The correlates shown in Table IX indicate that in various age groups and in low, middle, and high social and economic status categories, women are significantly less politically dimensionally complex than males.

There is indication that these results may be stated more broadly in terms of a lower female general political knowledge or sophistication level. Correlations (and differences in means) between sex and two measures of sophistication introduced in Chapter V support this conclusion. But generally political complexity is a better predictor of sex than are the political knowledge indicants.[6]

Support is found here for the conclusion that, in this sample, the election relevant attitudes of women are based on fewer dimensions of information than are the attitudes of males. Women show less ability and disposition to process political or campaign information along numerous dimensions of meaning. Given the significance levels obtained and the persistence of the correlations when controls are introduced these conclusions seem quite generalizable.

These results are surprising, especially given the long list of "in spite of's" noted. Interpretively, it can be speculated that these results point to the fact that many women, perhaps because of role expectations, mouth as great an ostensible interest in politics and even go to the polls at election time but allow opinion leaders, probably husbands, to process much of the information prior to vote decision making.

TABLE IX

CORRELATIONS BETWEEN SEX AND POLITICAL DIMENSIONAL COMPLEXITY WHEN AGE AND SOCIAL AND ECONOMIC STATUS ARE CONTROLLED. PEARSON R'S, N VARIES

Complexity Indicants	Age			
	Under 35 (N = 130)	Over 55 (N = 71)	Under 42 (N = 168)	Over 43 (N = 148)
COMPLEX	-.2184^{+}	-.2043**	-.2332^{++}	-.1303*
SIM JUDGE	-.2388^{+}	-.1476	-.2530^{++}	-.0889
SCALE USAGE	-.1200*	-.1840*	-.1286**	-.1292*

Complexity Indicants	Social and Economic Status^{x}		
	High (N = 72)	Middle (N = 135)	Low (N = 109)
COMPLEX	-.1364	-.2293^{+}	-.1445*
SIM JUDGE	-.1510*	-.2291^{+}	-.0688
SCALE USAGE	-.0682	-.1437	-.1751**

^{x}See footnote 5 of text.

Significance Levels: *-.10 level of confidence; **-.05 level of confidence; $^{+}$-.01 level of confidence; and $^{++}$-.001 level of confidence.

Or, it may be speculated that males, because of their greater economic involvement, see more issues as potential affectors of values, and more candidate and leader attributes as value instrumental. Thus males may see more political information as relevant and may be motivated to process information along more dimensions and to develop abilities to do so.

Education and Political Dimensional Complexity

A pattern of nonsignificant negative correlations is found to exist when the covariations of the level of complexity on the three measures and year level of education are determined. These correlations are displayed in Table VIII. These results can be explained in terms of the above sample mean education level of less complex females, and in terms of how one would expect the complexity levels of subjects with educational standing a year on either side of the mean year level of education (11.1 years) to vary randomly. When differences in means are used to calculate t scores, the 115 subjects with at least grade twelve educations are found to have significantly (at the .05 confidence level) greater mean COMPLEX and SIM JUDGE political complexity levels and greater (but not significantly so) SCALE USAGE mean levels than the 201 subjects who had attained less than grade twelve education levels.[7] In addition, the above grade twelve subjects use significantly (at the .005 confidence level) less middle checks in their adjective pair checking and are more discriminating scale checkers (no statistical significance) than the below grade twelve educated subjects.[8]

To the extent that *intelligence* may be presumed to relate to

higher education achievement these results provide minimal support for the thesis that political dimensional complexity, as measured by these indicants, is related to this general personality or ability variable. In turn, if an intelligence construct relates to a general cognitive complexity (a complexity not operative only on the processing of information about concepts in certain stimulus areas), then the findings may be taken as supportive of the validity of our political dimensional constructs through the education, intelligence and general complexity chain of interconnections.

It seems unlikely that the completion of advanced stages of the education process directly aids in the acquisition of political information processing capacity. We would prefer to interpret the higher education-political complexity association as possibly product of the aforementioned intelligence-complexity relationship or as possibly product of a positive relationship between level of education attainment and an ability and propensity to learn about things in general. But most probably this relationship is largely product of the influence of a number of third factor influences which covary with the achievement of higher education levels and affect information processing habits.

Age and Political Dimensional Complexity

Younger voters in the sample are quite significantly more dimensionally complex in their processing of the political information of the campaign. Table VIII shows that significant negative correlations exist between age and political dimensional complexity as measured by COMPLEX and SCALE USAGE. As well, the type of complexity

indicated by discriminant checking correlates significantly with age. Complexity as measured by SIM JUDGE also varies negatively with age but this covariation is not significant. The 168 subject below mean age (42.3 years) sample has a significantly greater mean SCALE USAGE level than the 148 subject above mean age sample.[9] Of extreme interest is the fact that in the male subsample significant correlations are found between age and all five measures of complexity.[10] Among males youthfulness and political dimensional complexity seem to covary markedly.

The overall relationship does not seem to be a function of education; the older population has the same mean education level as the younger.[11] And it exists in spite of the fact that the mean age of males is about four years in excess of that of simpler females.[12] The nonsignificant correlations between age and political interest allow us to suggest that the age-political complexity relationships found are not the result of higher political interest of younger subjects.[13] This hypothesis is confirmed by results which show that age and complexity covary more closely in the sample comprising 216 most interested subjects than they do in the full sample.[14] Finally, the age-political dimensional complexity correlations seem important in light of their comparison with the correlations between age and the three non-semantic differential indicants of more general political knowledge used in the previous chapter. None of these correlations is significant at better than .10 level of confidence.[15] It seems that the political complexity-age relationship is not the byproduct of a general political knowledge-age relationship; a specific difference in political complexity seems to exist between old and young subjects.[16]

As in the case of the relationship between education and political complexity, the relationships found here are perhaps indirect and partly explainable in terms of a range of third variables which covary with agedness or youthfulness. But reasons for the existence of a direct relationship can also be offered. It is possible that older people are more likely to possess a rigidity of political outlook which manifests itself in terms of dimensional simplicity. Or developmentally, it can be speculated that older voters may have formed more simple political information processing habits during a time when the scope of political information was not as broad and complex, and that they maintain these habits today. For example, many older voters may not have information processing structures to handle the diverse and large amounts of information emanating from government's large role in the economy or may not be inclined to think in terms of the political relevance of social problems. At the same time, younger voters may have been more likely to form more complex information processing systems to handle the larger amounts of information in the political world which they came of age in. Each of these points is very speculative.

Social and Economic Status and Political Dimensional Complexity

The pattern of correlations found to exist between political dimensional complexity and measures of social and economic status are neither highly significant nor completely consistent but allow the guarded conclusion that persons of higher social status tend to be more dimensionally complex in the way they process political information than persons of lower status. But politically complex and simple

individuals in fairly large proportions are to be found in all social class categories.

Two measures of social and economic status are used here. (Education level, often used as a social and economic status indicant, is dealt with in a separate section of this chapter.)[17] The first is based simply on subject's reported level of family income. (The sample mean income was approximately $7,000 per year.) The second is based on the ranking of subjects by two observers on a seven point continuum where the end points were extremely low income and life style potential and extremely high income and life style potential.[18] Life style potential scores took account of subjects' occupational indicants of potential for successful life enhancement. A scale was formed by averaging two observers' rankings.

The social and economic status correlations with political dimensional complexity are seen in Table X. Both Pearson product moment and Kendall rank order correlations are reported. Level of reported income correlates significantly only with the SIM JUDGE complexity measure in the total sample. As can be seen in Table XI, however, correlations between complexity and income level are substantial in the male subsample. Here income correlates at better than the .05 level with both COMPLEX and SIM JUDGE and at the .001 level of confidence with the two crude scale checking complexity measures. Scores on the ranked social and economic status measure, life style potential, covary most closely with the SCALE USAGE political complexity distribution. This relationship is especially strong in the female subsample. Correlations indicate

TABLE X

CORRELATIONS BETWEEN POLITICAL DIMENSIONAL COMPLEXITY AND SOCIAL AND ECONOMIC STATUS MEASURES. PEARSON R'S, KENDALL TAUS, N VARIES

Complexity Indicants	Reported Income (N = 312)		Life Style Potential (N = 315)	
COMPLEX	.0351	.0455	.0865*	.0659**
SIM JUDGE	.0826*	.0747**	.0553	.0441
SCALE USAGE	-.0299	-.0081	.0991*	.0712**
Middle Scale Checking	-.0631		-.1062**	
Discriminant Scale Checking	.0007		.1183**	

Significance Levels: **-.05 level of confidence; *-.10 level of confidence.

that general political knowledge relates positively to social and economic status as measured by life style potential.[19]

The conclusion that political complexity level varies upwards with social and economic status level seems intuitively reasonable. Subjects of high social and economic status level are more likely to be in the post-grade twelve education level group which has been shown to be more complex.[20] As well, a fairly steady pattern of correlations is revealed when the degree of covariation of social and economic status level and political interest and discussion indicants is determined; that political dimensional complexity should covary in turn seems reasonable.[21]

But there is the possibility that a fairly strong direct social and economic status-political complexity relationship exists. Pearson correlations shown in Table XI indicate that social and economic status and political dimensional complexity relate when political interest level is held constant. An even stronger pattern of correlations is uncovered when the ninety-five subject male and interested subsample is examined. These correlations are also displayed in Table XI. We conclude that the intermediacy effects of political interest should not be taken as overly important in determining the social and economic status-political complexity relationship.

If a direct social and economic status-political complexity relationship does exist, reasons apart from those linked with education can be forwarded. It may be the case that the concerns of high status category members with present and future events are greater; thus these

TABLE XI

CORRELATIONS BETWEEN POLITICAL DIMENSIONAL COMPLEXITY AND MEASURES OF SOCIAL AND ECONOMIC STATUS AMONG MEMBERS OF CERTAIN POPULATION SUBGROUPS. PEARSON R'S, N VARIES

Complexity Indicants	Politically Interested (N = 216)		Political Interested Males (N = 95)	
	Reported Income	Life Style Potential	Reported Income	Life Style Potential
COMPLEX	.0176	.1191**	.2052**	.1998**
SCALE USAGE	-.0538	.1192	.0791	.1084
SIM JUDGE	.0747	.0786	.2461+	.2119**

Complexity Indicants	Male (N = 141)		Female (N = 173)	
	Reported Income	Life Style Potential	Reported Income	Life Style Potential
COMPLEX	.1526**	.1052	.0191	.0713
SCALE USAGE	.0749	.0656	-.0566	.1224*
SIM JUDGE	.1746**	.1082*	.0834	-.0028

Significance Levels: +-.10 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

people may feel compelled to gather more information about political stimuli and to gain the ability to do so. Or the same felt need may arise among these people because of greater cognizance of the diverse relevance of governments and politics to their life spaces. Among those categorized as members of upper status groups, more valued ends may be perceived as affectable by elections; thus the need to take account of more dimensions of political information as relevant may be felt by those in upper social and economic status categories. Or it may be the case that those of high social and economic status may be more free to be concerned with non-"bread and butter" type issues and to regard issues, candidates and leaders along judgemental dimensions not related to self-oriented judgements.

Summary

This chapter has presented evidence that average members of certain population subgroups maintain quite different political information intake habits or tendencies. Political dimensional complexity, an indicant of the number of dimensions of meaning used to process political information, has been shown to vary significantly across differences in four types of demographic variables which we have investigated. Females, those of lower education, those over forty-five, and those of lower social and economic class category have been shown to be more likely to be simple processors of political or election campaign information. With reference to the framework presented in Chapter II, these findings imply that members of these groups are much more likely than their opposites to possess election-relevant (and general political) attitudes

which are based on fewer beliefs or units of political information. These findings, which hint at the existence of structural differences of the political attitudes of political men, should be of interest to the student of political attitudes.

CHAPTER VI, FOOTNOTES

[1] The differences in means (t) tests revealed the following t's from the means indicated:

	MEN (141)	WOMEN (177)		SIG
COMPLEX	$\bar{m} = 5.333$	$\bar{m} = 4.494$	$t = 3.37$	(.0005)
SCALE USAGE	$\bar{m} = 3.163$	$\bar{m} = 2.828$	$t = 2.33$	(.01)
SIM JUDGE	$\bar{m} = 3.170$	$\bar{m} = 2.667$	$t = 3.18$	(.005)
Middle Checking	$\bar{m} = 63.60$	$\bar{m} = 74.22$	$t = 3.16$	(.005)
Discriminant Checking	$m = 62.70$	$\bar{m} = 52.35$	$t = 2.62$	(.01)

[2] When interest is held constant, that is, when the 216 subject subsample of interested persons is studied, the complexity-sex correlations maintains. Below are these correlations where negative correlations indicate that maleness and upward complexity level covary together (N = 216).

	SEX	SIG
COMPLEX	-.1675	(.007)
SCALE USAGE	-.1360	(.023)
SIM JUDGE	-.1387	(.021)

[3] The mean scores on scales measuring the traits listed (a through e) are as follows. N's vary because of missing values. On the right are shown the correlations (R's) between the variables and sex where a negative correlation indicates a male tendency to be higher on the variable. None are significant.

	MEN		WOMEN		
	N	$\bar{m}$	N	$\bar{m}$	R
Pol. Interest	141	1.582	174	1.580	.0045
Pol. Discussion and Interest	130	3.146	167	3.113	-.0094
Pol. Learn	139	1.784	173	1.768	-.0062
Candidate Contact	139	1.597	168	1.708	.0534
Pol. Efficacy	128	2.047	166	1.940	-.0377

Where a score of 4.0 indicates that the last four elections have been voted in, the mean voting scores of men and women respectively are as follows. (Only subjects able--of age and citizens--to vote in all four elections are included in calculations.)

MEN		WOMEN	
N	$\bar{m}$	N	$\bar{m}$
113	2.84	130	2.82

Where a score of 1.00 indicates the subject voted in or plans to vote in the election under study, the mean scores of men and women respectively are:

MEN		WOMEN	
N	$\bar{m}$	N	$\bar{m}$
141	1.16	174	1.24

[4] Males in the sample have a mean education level of 10.6 years; females of 11.6 years.

[5] Social and economic status was controlled for using the life style potential measure introduced later in this chapter.

[6] The background variable-general political knowledge correlations are given below. Pearson R's, N's given.

Ability Measures	Sex		Education		Age	
	N	R	N	R	N	R
Prediction Ability	173	-.0457	173	.1466**	173	-.0555
Assessment Ability	316	-.2165^{++}	316	-.0039	316	.0327
Ability to Name Issues	316	-.0822*	316	.1744^{++}	316	-.0628

Significance Levels: *-.10 level of significance; **-.05 level of significance; and $^{++}$-.001 level of significance.

[7] The mean complexity levels and t-scores for above and below grade 12 education portions of the sample are as follows:

	Less Grade 12	More Grade 12 (inclusive)		
COMPLEX	$\bar{m}$ = 4.711	$\bar{m}$ = 5.157	t = 1.770	(.05)
SCALE USAGE	$\bar{m}$ = 2.935	$\bar{m}$ = 3.052	t = .812	not
SIM JUDGE	$\bar{m}$ = 2.776	$\bar{m}$ = 3.104	t = 2.062	(.05)
Middle Checking	$\bar{m}$ = 72.73	$\bar{m}$ = 63.33	t = 2.775	(.005)
Discriminant Checking	$\bar{m}$ = 55.47	$\bar{m}$ = 59.82	t = 1.090	not

[8] Significant correlations are found to indicate the covariation between the level of education and two indicants of political knowledge used earlier. The correlation with the ability to name issues measure is .1744 (significant at the .001 confidence level), with ability to predict the election outcome, R = .1466 (significant at the .027 level). Education level does not correlate significantly with the third proposed indicant of political knowledge or sophistication--the ability to assess party stands on issues.

[9] The means and t-test results are as follows for differences in age groups.

	Above Mean Age (42 yrs) $\overline{M}$	Below Mean Age $\overline{M}$	t	Sig
COMPLEX	4.988	4.743	.995	not
SIM JUDGE	1.911	1.878	.217	not
SCALE USAGE	3.077	2.865	1.532	(.10)

[10] These correlations between age and complexity in the male sample are (significance in brackets):

		SIG
COMPLEX	-.1691	(.023)
SCALE USAGE	-.1706	(.022)
SIM JUDGE	-.1174	(.083)
Middle Checking	.1702	(.022)
Discriminant Checking	-.1784	(.017)

[11] The mean education level—below mean age is 11.12 and the mean education level—above mean age is 11.14.

[12] The mean age males is 44.6 and the mean age females is 40.5.

[13] The correlation between interest and age is R = .014.

[14] The age-complexity correlations in the interested sample are (significance in brackets):

		SIG
COMPLEX	-.1342	(.02)
SCALE USAGE	-.1565	(.01)
SIM JUDGE	-.0687	(.15)

[15] For these correlations see footnote 5 above.

[16] General satisfaction is taken in the indication of political complexity specificity hinted at by these results.

[17] Because, of course, education is of special interest for its possible relationship to intelligence and learning ability.

[18] Two other rankings were performed but in each case large numbers of subjects were given social and economic status indeterminant ranks. One of these ranked subjects on a four-point continuum where unskilled occupation and managerial-professional-owner occupation were extremes; the other ranked subjects on a continuum where extremely low and high social status and prestige were extremes. The first rankings formed a scale which did not correlate with any indicants of complexity. The second rankings formed a scale which correlated to about the same degree as the life style potential scale with political complexity. Because of the large numbers of indeterminants (about 120) and because of the cumbersome nature of the result reporting with four status measures these results are not reported.

[19] The correlations between social and economic status and the indicants of general political knowledge are given below. Pearson R's, N's are given.

Ability Measures	Reported Income (N = 312)		Life Style Potential (N = 315)	
	N	R	N	R
Outcome Prediction	168	-.0300	113	.0431
Assessment Accuracy	309	.0078	315	.1755++
Ability to Name Issues	309	.0393	315	.1206**

Significance Levels: **-.05 level of confidence; ++-.001 level of confidence.

[20] For example the mean education level of the 207 highest social and economic status subjects (on life style potential) is 11.7 years, of the lowest 109 subjects 10.0 years.

[21] The correlation between political interest and life style potential is .0976; between political interest and reported income .0965; between political discussion propensity and life style potential .1022; and between discussion and reported income .1167. All of these correlations are significant at better than .05 confidence levels.

CHAPTER VII

POLITICAL DIMENSIONAL COMPLEXITY AND CERTAIN POLITICAL ORIENTATIONS

Analysis allows guarded conclusions about the relationships between political dimensional complexity and certain of the political orientations and attitudes of Edmonton Centre subjects. The relationships exposed and reported in this chapter are of descriptive interest. In this chapter we also pursue the task, begun in Chapter V, of exploring the differences in the types of dimensional complexity-simplicity measured by the core indicants. Again we find major differences in the extent to which SIM JUDGE and SCALE USAGE predict the variation in some third variable measures.

Political and Election Interest and Political Dimensional Complexity

The use of political interest level as a control variable in analysis to this point has been noted.[1] The heavily skewed distribution of interest scores in the very interested direction, which was noted earlier as at least partially the result of the various types of sampling losses, renders correlational analysis using the political interest scale somewhat unreliable.[2] This should be kept in mind as these results are studied.

Table XII shows Pearson product moment and Kendall rank order correlations which indicate that political dimensional complexity as measured

TABLE XII

CORRELATIONS BETWEEN POLITICAL INTEREST, POLITICAL EFFICACY AND POLITICAL MYTH REJECTION AND MEASURES OF POLITICAL DIMENSIONAL COMPLEXITY. PEARSON R'S, KENDALL TAUS, N VARIES

Complexity Indicants	Political Interest (N = 316)		Political Efficacy (N = 295)		Political Myth Rejection	
					Strong-Just (N = 316)	Just-Good (N = 316)
	R	Tau	R	Tau	R	R
COMPLEX	.1400^{+}	.0946^{+}	.0724	.0559*	.0518	-.1584^{+}
SCALE USAGE	.0433	.0200	.0057	.0038	.1268^{+}	-.0704*
SIM JUDGE	.1822^{++}	.1543^{++}	.1077**	.0883*	-.1268^{+}	-.1867^{++}
Middle Scale Checking	-.2350^{++}		-.2900^{++}		.4158^{++}	.4968^{++}
Discriminant Scale Checking	.1765^{++}		.1582^{+}		-.0939**	-.1421^{+}

Significance Levels: $^{++}$-.001 level of confidence; $^{+}$-.01 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

by COMPLEX and SIM JUDGE covaries positively with political interest level. The SCALE USAGE complexity-simplicity distribution, on the other hand, does not predict the variation in political interest level. Analysis of the differences in mean political interest level in portions of the sample which are most simple and most complex on each of the measures support these correlational findings. The mean interest level of subjects in the sample half who are highest on SIM JUDGE is significantly (at the .025 confidence level) greater than the mean level of subjects in the lower half of the SIM JUDGE distribution; no such difference exists between mean political interest levels of subjects in high and low portions of the SCALE USAGE distribution.[3]

Political complexity (as measured by the core measure SIM JUDGE) relates most strongly to political interest in female subsamples. Table XIII shows these results. Among women the SIM JUDGE (and COMPLEX) and interest correlations are of greater magnitude than in the total sample. Among men, SIM JUDGE correlates with political interest only at the .10 confidence level.

Complexity scores based on SIM JUDGE predict the sample's (and especially the female sample's) political interest variation; complexity scores based on SCALE USAGE are unable to do so.[4] In spite of the ambiguity it introduces, the exhibited independence of the SCALE USAGE based complexity distribution from political interest is taken by the researcher to be quite gratifying. According to a measure which we consider sound, individuals scoring high on SCALE USAGE have ability

TABLE XIII

CORRELATIONS BETWEEN POLITICAL INTEREST AND POLITICAL EFFICACY AND MEASURES OF POLITICAL DIMENSIONAL COMPLEXITY IN MALE AND FEMALE SUBSAMPLES. PEARSON R'S, N VARIES

	Men (N = 141)		Women (N = 175)	
Complexity Indicants	Political Interest	Political Efficacy	Political Interest	Political Efficacy
COMPLEX	.0968	.0412	.1773+	.0821
SCALE USAGE	.0476	-.0089	.0404	.0081
SIM JUDGE	.1107*	.0707	.2429++	.1291**

Significance Levels: ++-.001 level of confidence; +-.01 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

for the complex judgement of political or campaign stimuli. His possession of this ability has been validated to some extent by his exhibited ability to handle the political analysis tasks noted in Chapter V better than the person at the simple end of the SCALE USAGE scale. In this section are shown results which indicate that the complexity of this high SCALE USAGE subject is quite independent of his political interest level.

Those who are dimensionally complex (who use numerous meaning giving dimensions) in their actual discrimination of a set of political concepts are more politically interested than those who are judged complex on the basis of their possession of numerous political judgement dimensions. These results lead us to hypothesize that the complexity of persons who score high on SCALE USAGE is a product of structural and not motivational factors. This person's complexity may be classed as an information processing ability rather than as an information processing tendency or disposition. SIM JUDGE, on the other hand, measures both an ability and a tendency for complex political information processing. These results support the hypothesis outlined earlier which labelled SIM JUDGE a measure of actual campaign applied dimensional complexity; and SCALE USAGE a measure of a sometimes unapplied tendency for complex political judgement.

Political Efficacy and Political Dimensional Complexity

Similar to the results of the previous section are those (shown in Table XII) which indicate that feelings of political efficacy relate

positively to subjects' level of political dimensional complexity as measured by SIM JUDGE but do not relate to subjects' SCALE USAGE measured complexity.[5] Political dimensional complexity as measured by the hybrid measure, COMPLEX, correlates moderately with efficacy level, as something of an average of the way SIM JUDGE and SCALE USAGE correlate. These correlations are supported by difference in means test results which show that mean political efficacy level is greater among subjects who score high on SIM JUDGE than among subjects who score low on this measure, but varies little between low and high portions of the SCALE USAGE distribution.[6]

The pattern of correlations which exists is largely determined in the female subsample as can be seen in Table XIII. In the male subsample no significant covariation exists between political efficacy and political dimensional complexity scores. In the female part of the sample political dimensional complexity of the type measured by SIM JUDGE varies positively with a tendency on the part of subjects to cognize a greater personal power and power of "the people" in relation to government and the political process.

The overall pattern of relationships is consistent in interested populations. When social and economic status level is controlled for by ascertaining political efficacy-complexity correlations for different levels of life style potential, a positive covariation between efficacy and complexity as measured by SIM JUDGE is found to exist in upper and middle class samples.[7] Among the 101 subjects comprising the lowest status classes, political efficacy and political dimensional complexity do not correlate. It may be the case that some lower class

subjects who are complex cognize an inefficacy.

As has been noted elsewhere feelings of political efficacy have a strong personal component.[8] It is difficult to ascertain what an accurate cognition of political efficacy is for one individual let alone for a group. Thus it is not possible to say whether these results hint at the greater realism or naiveté of those subjects who are more politically complex according to the SIM JUDGE measure. Had a scale measuring the subject's perception of relevance of government been derivable from survey questions then research leading to a judgement of this type might have been possible.

Once more results show that, in spite of the strong and significant relationship (R = .378) between the political dimensional complexities measured by SIM JUDGE and SCALE USAGE, the two core measures are discriminant in the extent to which they relate to a third variable. Because of the strong SIM JUDGE-SCALE USAGE covariation we know that a portion of SCALE USAGE scores must covary with scores on the third variable measure as do the SIM JUDGE scores. Given this it can be reasoned that the overall pattern of relationships found is at least partially the result of the fact that the SCALE USAGE scores of individuals who do not score similarly on SCALE USAGE and SIM JUDGE do not covary, or do covary in a negative direction with subject efficacy level. Results support this conclusion; the fifty-four subjects who score high on SCALE USAGE but low on SIM JUDGE have a political efficacy level of 1.90 while the total sample have an average efficacy level of 1.98. Like

the more interested, the more efficacious are more likely to apply their political information processing abilities during the election campaign.

Political Activity--Appendix A

The relationships found to exist between the different indicants of political dimensional complexity and three indicants of political and campaign involvement or activity--tendency to have voted in recent elections, tendency to be active in the campaign, and tendency to belong to a party--support the conclusions made in the last two sections about the ability of SIM JUDGE, and the inability of SCALE USAGE, to predict political interest and involvement levels. More complex subjects on SIM JUDGE are more involved, while more complex subjects on SCALE USAGE are no more involved, than their more simple counterparts. These results are presented in Appendix A.

Political Myth Rejection and Political Dimensional Complexity

Research was carried out in order to find out whether or not there exists a relationship between political dimensional complexity and a cynical political disposition or what, given the measures used here, perhaps is more aptly named a tendency to be a political myth rejector. The intention was to determine whether or not more complex subjects were more likely than simple ones to reject the tendency to regard all political concepts as good, just and strong.

Combinations of subject's mean check positions (across all twenty-four concepts) on the just-unjust, weak-strong and bad-good adjective pair scales were used as measures of the dependent variable.

The first scale, strong-just myth rejection, combined subject's mean scores on the weak-strong and just-unjust scales. The second, good-just myth rejection combined subject's mean scores on the bad-good and just-unjust dimensions.[9] In each case higher scores were taken to indicate a greater cynicism, or a tendency to regard concepts less favorably.

Subjects were overwhelmingly favorable in their judgements. Less than one per cent of the sample judged concepts to be, on the average, on the unfavorable sides of the just-strong or just-good combinations. Analysis, then, allows us to determine only the political complexity correlates of the tendency to be more or less extreme in concept favorableness.

If we reject the SIM JUDGE (and thus COMPLEX) correlations with the myth rejection indicants because of the possibility that they are biased by the relationship which middle scale checking has with complexity on one hand and with unfavorable evaluation on the other (middle scale checking leads to less extreme favorable judgements), then we are left to accord attention to the SCALE USAGE-myth rejection correlations. Table XII shows a correlation which indicates that the SCALE USAGE distribution of complexity scores predicts a tendency to regard concepts less favorably on strength and justness dimensions. That this correlation is based in variance in strength and not evaluative dimension judgements is shown by the fact that the good-just myth rejection scale, comprising two representatives of the latter dimension, correlates significantly with SCALE USAGE complexity in a direction which indicates that

more complex subjects are more favorable in their evaluative judgements.[10] Essentially the same pattern of correlations persists when controls are introduced. Persons who are complex on SCALE USAGE are more likely than their simpler counterparts to judge concepts more favorably along evaluative dimensions and less favorably along a potential or strength dimension.

Left-Right Wing Evaluative Orientation and Political Dimensional Complexity

With one inconsistency political dimensional complexity level relates positively to a tendency to regard as good a set of concepts generally considered politically left-wing in the Canadian context, and as bad the converse right-wing concepts. These findings, reported in Table XIV, are regarded as among the most significant reported here.

Also important is the evidence which indicates that, to the list of the functions of the semantic differential can be added its usefulness as a device which is generative of components of a satisfactory liberalism-conservatism or left-right orientation scale. Three scales were derived from subject's judgements, along the bad-good adjective pair scale, of six concepts which were considered to have liberal-conservative or ideological content. The first of these scales, Domestic Left-Wing Orientation, is a straightforward favorableness-unfavorableness of left wing-right wing Canadian domestic concepts measure. The second, Anti-Americanism, measures the degree of favorableness-unfavorableness to two American involvements, while the third, Overall Left-Wing Orientation, is formed by supplementing the items of the first two scales with one extra item and is a general measure of favorableness towards objects considered to

be of left-wing or right-wing content.[11] High scores on each of the scales indicate liberalism, left-wing orientation, or at least, a tendency to regard that which is usually considered to be left-wing as good and the converse concepts to be bad. Each of the three scales distributed subjects quite normally across the range of scores created.[12] A degree of validational support is provided by the existence of significant negative correlations between the three measures and the life style potential measure used in the previous chapter as an indicant of social and economic status.[13]

Correlations in Table XIV show that degree of left-wing orientation or evaluative favoritism as measured by domestic left-wing orientation and overall left-wing orientation covaries positively with political dimensional complexity level as measured by all three indicants.[14] Anti-Americanism decreases with greater political dimensional complexity as measured by SCALE USAGE and does not covary significantly with complexity level as measured by SIM JUDGE. Those subjects who have been characterized as having complex campaign applied information processing habits (high on SIM JUDGE) possess favorable attitudes towards Canadian political concepts considered to be of the left and unfavorable attitudes towards concepts of the right in comparison to subjects at the simple end of the SIM JUDGE distribution. Complex and simple subjects on SIM JUDGE are divided in the degree of favorableness which they show towards the involvements of the United States. Like subjects who are complex on SIM JUDGE, the subjects who are complex on SCALE USAGE regard left-wing domestic concepts with a greater favorableness and right-wing

TABLE XIV

CORRELATIONS BETWEEN LEFT-WING EVALUATIVE ORIENTATION AND POLITICAL DIMENSIONAL COMPLEXITY. PEARSON R'S, N = 316

Complexity Indicants	Domestic Left-Wing Orientation	Anti-Americanism	Domestic Left-Wing Orientation
COMPLEX	.1419^{+}	-.0317	.1310^{+}
SCALE USAGE	.1131**	-.0744*	.0816*
SIM JUDGE	.1221**	.0172	.1333^{+}
Middle Scale Checking	-.0630	-.0274	-.1200**
Discriminant Scale Checking	-.0769*	.0010	-.0053

Significance Levels: $^{+}$-.01 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

concepts with a lesser favorableness than their more simple counterparts. But inconsistently, the subject who is complex on SCALE USAGE is more likely to be supportive of U.S. influence in Canada and Canadian support for the U.S. in Vietnam.

While the divergence in the way SIM JUDGE and SCALE USAGE relate to anti-Americanism is no doubt partly product of the confusing multidimensional nature of anti-Americanism attitudes, its sources can also be found by disection of distributions. First, the inconsistency can partly be explained in terms of the high anti-Americanism of subjects judged to be simple on the SCALE USAGE measure. This in turn can be partly explained by the higher than normal proportion of females in this group of 57 subjects and the significantly greater anti-Americanism of women in our sample.[15] Secondly, the inconsistency can be explained in terms of the pro-Americanism of subjects who score high on SCALE USAGE but low on SIM JUDGE. That is, those who have a certain type of political judgement complexity but do not actually process campaign information along numerous dimensions are pro-American.[16]

When controls on sex, political interest level, and social and economic status level are imposed some interesting facts are revealed. Rather than report all correlations, we reproduce them in Table XV. In the male subsample tendency to evaluate concepts of the left as good (and the converse tendency) covaries positively in all but one instance with the measures of political dimensional complexity. Here, importantly, the SIM JUDGE-anti-Americanism correlation approaches significance at

TABLE XV

CORRELATIONS BETWEEN LEFT-WING ORIENTATION INDICANTS AND MEASURES OF POLITICAL DIMENSIONAL COMPLEXITY AMONG MEMBERS OF CERTAIN SUBGROUPS OF THE POPULATION. PEARSON R'S, N VARIES

Complexity Indicants	Men (N = 141)			Women (N = 175)			Politically Interested (N = 216)		
	D.L.W.O.[x]	Anti. Amer.	O.L.W.O.[xx]	D.L.W.O.	Anti. Amer.	O.L.W.O.	D.L.W.O.	Anti. Amer.	O.L.W.O.
COMPLEX	.0901	.0458	.1414**	.1675^{+}	-.0623	.1321**	.1066*	-.0646	.0720
SIM JUDGE	.0775	.1033	.1540**	.1421**	-.0175	.1259**	.0947*	-.0042	.0825
SCALE USAGE	.0737	-.0359	.0785	.1305**	-.0858	.0883	.0795	-.1077*	.0328

Complexity Indicants	Upper Social and Economic Status (N = 71)			Middle Social and Economic Status (N = 135)			Lower Social and Economic Status (N = 110)		
	D.L.W.O.	Anti. Amer.	O.L.W.O.	D.L.W.O.	Anti. Amer.	O.L.W.O.	D.L.W.O.	Anti. Amer	O.L.W.O.
COMPLEX	.1430	-.0091	.1303	.1344*	-.0658	.1274*	.1735**	.0032	.1636**
SIM JUDGE	.1198	.0348	.1244	.0666	-.1341	.0164	.1989**	.1850**	.3009^{+}
SCALE USAGE	.1181	-.0588	.0892	.1599**	.0327	.2016^{+}	.0856	-.1935**	-.0415

Significance Levels: $^{+}$-.01 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

[x] D.L.W.O. - Domestic left-wing orientation

[xx] O.L.W.O. - Overall left-wing orientation

the .10 confidence level in a consistent (positive) direction. In the female sample complexity, no matter how it is measured, relates positively (and in but one case significantly) to domestic left-wing orientation and overall left-wing orientation. In the female subsample the SCALE USAGE-anti-Americanism correlation is negative and of magnitude enough to be significant at the .13 confidence level. In the sample of interested subjects a pattern of correlations is found which is similar to that found in the total sample. In the high social and economic status group (as indicated by life style potential scores) complexity level relates positively to domestic left-wing orientation and overall left-wing orientation at substantial but not significant levels. No significant pattern of covariance is noted in these subjects' anti-Americanism and complexity levels. In the middle status group the SIM JUDGE distribution of scores covaries negatively with greater anti-Americanism. Oppositely in low social and economic status groups SIM JUDGE correlates significantly and positively with anti-American sentiment. Those whom we have termed politically dimensionally complex in application are more pro-American when they are of middle status and more anti-American when they are of low status. The difference between classes is noteworthy, as is the overall strength of the relationship between SIM JUDGE measured complexity and all indicants of left-wing orientation in the low status sample. The strong positive SCALE USAGE-pro-Americanism covariation among low social and economic status subjects probably has its root explanation in the same place as this correlation in the total sample.

Few explanations of the relationships described in this section

can be offered.[17] But the possibility that the political attitudes of more liberal subjects may be based in more dimensions of political information, as is suggested here, has interesting implications.

Summary

A diverse set of relationships have been described in this chapter. All have served to expose attitudinal or behavioral characteristics which correlate with political dimensional complexity. The first two sections provided insights into differences in the natures of the complexities measured by the two core measures, SIM JUDGE and SCALE USAGE. In the latter two sections we explored two of the political orientations of subjects--their tendency to reject political myths and their left-wing evaluative orientation--with the intention of uncovering relationships between political dimensional complexity and these orientations. The complexity-myth rejection relationship was not tested as comprehensively as it could have been if a measure of the latter tendency could have been derived from nonsemantic differential sections of the survey. The fairly consistent pattern of relationships found between political dimensional complexity and left-wing evaluative orientation is noteworthy. As has been suggested, this relationship is of interest to the student of the content of attitudes.

FOOTNOTES, CHAPTER VII

[1] The interest scale comprised two items: (a) How interested would you say you were (are) in the recent (upcoming) national election campaign--Very to not at all; (b) Generally speaking, would you say you are interested in political and national affairs--A great deal to not at all.

[2] Sixty-eight per cent of the sample claim to have at least moderately high interest in both the election campaign and national political affairs. Only ten per cent reported low levels of interest in both election and general political affairs.

[3] The political interest level means and t scores are for high and low complexity subjects as follows:

	High	Low	t	SIG
SIM JUDGE	$\overline{m} = 1.69$	$\overline{m} = 1.52$	2.21	.025
SCALE USAGE	$\overline{m} = 1.58$	$\overline{m} = 1.58$		

The interest level of the lowest 77 SIM JUDGE subjects (most simple) is 1.40; for the highest 64 subjects on SIM JUDGE interest level is 1.77.

[4] These findings are consistent with findings about complexity's relationship with propensity for political discussion reported in Chapter VIII below.

[5] The political efficacy scale was formed from four items: (1) How much influence do you feel elections have in making the Government pay attention to what people think? (2) Over the years how much attention do you feel the Government pays to the people when it decides what to do? (3) How much influence do you feel a person like yourself can have on the National Government? (4) How much importance do you think your vote had (would have had, will have) in deciding the outcome of the election? The efficacy scale Guttman scaled with a C. of R. of .819 and distributed subjects normally across its range.

[6] Differences in mean levels of political efficacy between high and low complexity groups are as follows. No significant t's obtained.

	High	Low
COMPLEX	$\overline{m} = 2.08$	$\overline{m} = 1.92$
SIM JUDGE	$\overline{m} = 2.10$	$\overline{m} = 1.92$
SCALE USAGE	$\overline{m} = 1.99$	$\overline{m} = 1.98$

[7] The correlations between political efficacy and complexity in different social and economic status groups are:

	High Life Style Potential (N = 64)	Middle Life Style Potential (N = 129)	Low Life Style Potential (N = 101)
COMPLEX	-.0055	.1307 (.10)	.0216
SCALE USAGE	-.1240	.0258	.0445
SIM JUDGE	.0892	.1831 (.05)	-.0062

[8] S.K. Harvey and T.G. Harvey, "Adolescent Political Outlooks: The Effects of Intelligence as an Independent Variable," forthcoming, The Midwest Journal of Politics.

[9] In each case scores on the one scale were reversed by subtracting them from eight and added to the score on the other to arrive at the scale where higher scores indicated a greater tendency to be a myth rejector.

[10] This conclusion is supported by the complexity correlations with the individual adjective pair scales. Complexity relates negatively with a tendency to regard concepts as strong and positively with a tendency to regard concepts as good.

[11] To get domestic left-wing orientation we added the scores from one (bad) to seven (good) used by a subject to judge the concepts NDP and PROVIDING MEDICARE to the difference of eight minus the score on the judgement of PROGRESSIVE CONSERVATIVE PARTY. To get anti-Americanism we added the score from one (bad) to seven (good) used by a subject to judge the concept REDUCING U.S. INFLUENCE IN CANADA to the difference of eight minus the score on the concept SUPPORTING THE U.S. IN VIETNAM. To get overall left-wing orientation we combined the above five items in the same pattern and added the score on the concept T.C. DOUGLAS.

[12] Domestic left-wing orientation correlates with anti-Americanism R = .1498 (significant at .004), and with overall left-wing orientation correlates R = .7529 (significant at .001); overall left-wing orientation correlates with anti-Americanism R = .7034 (significant at .001).

[13] The correlations between the social and economic status measure, life style potential, and the left-wing orientation measures are as follows:

		SIG
Domestic left-wing orientation	R = -.1085	(.027)
Anti-Americanism	R = .0655	(.123)
Overall left-wing orientation	r = -.1190	(.017)

[14] That these findings go only as far as evaluative leftism is hinted at by findings which reveal no covariation between political dimensional complexity and subjects reported acceptance of the idea of joining in nonviolent protest demonstrations.

[15] In order of mention: the mean anti-Americanism score of the full sample is 8.62, of the lowest 57 subjects on SCALE USAGE it is 9.00, of the highest 53 subjects on SCALE USAGE it is 8.48. The overall proportion

of females in the sample is 1.54/2.00 the proportion of the low 57 scorers on SCALE USAGE is 1.70/2.00. The mean anti-Americanism level of males is 8.32, of females 8.90 where higher scores indicate greater anti-Americanism.

[16] The mean anti-Americanism score of 54 high SCALE USAGE-low SIM JUDGE subjects is 8.20.

[17] The tendency of simple subjects to vote more heavily for the Conservative party and less heavily for the Liberals is perhaps supportive of our analysis in this section. Thirty-six point five per cent of subjects on the simple side of the COMPLEX distribution and 25.8 per cent of subjects on the complex side vote Conservative. Fifty-four per cent of complex subjects and 47.4 per cent vote Liberal. Equal proportions vote NDP. The Liberal preference is particularly strong among complex men, the Conservative preference is particularly strong among simple women.

CHAPTER VIII

POLITICAL INFORMATION GATHERING AND POLITICAL DIMENSIONAL COMPLEXITY

Do individuals who process political or campaign information along more dimensions of meaning exhibit different actual campaign information gathering tendencies than less dimensionally complex individuals? Do more complex persons participate in campaign information gathering activity to a greater extent by discussing the election with friends or family or by learning about the election through television, radio or newspaper? In this chapter these and similar questions will be dealt with through investigation of the political information intake activities of subjects during the election campaign.

It is quite possible that subjects could gather information along enough information processing dimensions to be judged complex on the measures developed here while still participating in only a small amount of actual election information gathering activity during the campaign period. A good deal of knowledge about candidates, leaders and issues could be gained over a long period of time or gained by little actual information gathering activity. On the other hand it seems reasonable to expect that politically dimensional complex people should, on the average, participate to a greater extent in campaign information gathering

activities. If empirical results do confirm this expectation then it will be incumbent on the researcher to ascertain whether or not such results can be explained in terms of the influence of political interest. If this is not the case then there will be some evidence that more politically dimensional complex persons participate more in order to gather the information necessary to "satisfy" information processing dimensions.

Herein is suggested a set of basic questions which seem answerable only through more exacting testing of hypotheses than can be undertaken here. We feature the central question to be: Does the possession of an information processing dimension compel the possessor to seek information to fulfill this dimension? If, for example, we determine that an individual normally processes information about politicians on a left-right dimension, then does this mean that we expect that he will seek information which will allow him to categorize a certain candidate on a left-right continuum? In line with the framework presented in the first chapter the answer would seem to be positive. But it is difficult to deal with the question of how earnestly we expect that the person will carry out his search to fill the left-right dimension's "thirst" in any given instance. In a given case it seems possible that if information is not readily available then information to satisfy a certain dimension will not be processed. Earlier we noted the need for extensive research in investigation of the question of information processing "energy." Here we forward the thought that complex and simple persons alike may be of at least two types: (a) those who earnestly attempt to

gain enough information about political stimuli to allow classification on judgemental dimensions, and (b) those who, while possessing of the ability to process information along numerous dimensions, may not do so unless the information needed to fulfill these dimensions is very available.

Campaign Learning Through Media Sources and Complexity

Results show the existence of a slight positive relationship between upward levels of the type of dimensional complexity measured by SIM JUDGE and a tendency to have learned about the election campaign through media sources. Table XVI shows that the Kendall rank order correlation between SIM JUDGE complexity and a tendency to have learned about the campaign by reading newspapers, watching television, and listening to radio is positive and significant at the .05 confidence level.[1] This correlation is, it appears, inflated by the existence of a very significant positive relationship between SIM JUDGE measured complexity and media learning in the female subsample.[2] Following the pattern noted in the previous chapter (when political interest was the dependent variable) the SCALE USAGE dimensional complexity-media learning correlations are slight and negative. No tendency to learn about the campaign is predicted by the SCALE USAGE distribution. (As is seen in Table XVI the discriminant complexity and middle scale checking measures each correlate very significantly with media learning propensity.)

The strong political interest-media learning correlation hints,

TABLE XVI

CORRELATIONS BETWEEN INFORMATION GATHERING MEASURES AND POLITICAL DIMENSIONAL COMPLEXITY. PEARSON R'S, KENDALL TAU, N VARIES

Complexity Indicants	Media Learning (N = 312)		Political Discussion (N = 298)		Party Contact (N = 308)		Watch Debate (N = 214)	Hear of Demonstration (N = 113)
	R	Tau	R	Tau	R	Tau	R	R
COMPLEX	.0324	.0365	.1477+	.1152^{+}	.0810*	.0656**	.0333	.2157^{+}
SIM JUDGE	-.0679	.0692**	.1865^{++}	.1518^{++}	.0644	.0628**	.1156**	.1759**
SCALE USAGE	-.0180	-.0128	.0521	.0456	.0700	.0563*	-.0704	.1823**
Middle Scale Checking	-.2506^{++}		-.2807^{++}		-.1370^{+}		.0307	-.2062**
Discriminant Scale Checking	.1996^{++}		.4529^{++}		.1888^{++}		-.1283**	.1513*

Significance Levels: $^{++}$-.001 level of confidence; $^{+}$-.01 level of confidence; **-.05 level of confidence; and *-.10 level of confidence.

and interest controls confirm that the slight relationship found is largely a product of the greater political interest of both the subjects judged complex or SIM JUDGE and the subjects who are media learners.[3]

The significant correlations between media learning and the four indicants of general political knowledge or political sophistication are notable.[4] Since political dimensional complexity and political knowledge (as measured by these measures) correlates quite closely, these results indicate that it is likely that a portion of the both complex and knowledgeable population either gain their knowledge prior to the election campaign or do not admit to having learned from the media during the campaign.

More clearcut results pointing to the same conclusion are revealed when tendency of subjects to have watched the televised leader debate of the 1968 campaign is correlated with complexity level. Of 214 subjects interviewed after the debate 114 had seen it, 100 had not. Significant Pearson correlations reveal that SIM JUDGE level predicts this distribution fairly well. The relationship is positive. Fifty-nine per cent of the 44 most complex subjects on SIM JUDGE saw the debate, only thirty-five per cent of the 49 most simple saw it. COMPLEX and discriminant checking complexity distributions also covary positively with a tendency to have watched the debate. But there is a fairly strong (if not significant) negative correlation between complexity as measured by SCALE USAGE and tendency to have watched the debate. When controls on interest level are introduced the correlations do not diverge

from those in the total sample except in the case of the large SIM JUDGE-debate watching correlation in the not interested sample.[8] Whereas the general media learning-complexity correlation was largely product of joint relationships with political interest, the specific debate watching tendencies of subjects are predicted by political dimensional complexity regardless of subject's political interest level.

The SCALE USAGE-media learning findings are contradicted by results which show that, among those interviewed after the election, complex subjects were more likely than simple subjects to have learned, through the media we presume, of a specific election event, the Quebec Separatiste demonstration on the eve of the election. Table XVI shows that each of the three complexity measures correlate significantly and in the more complex-more likely to have heard direction with the dependent variable.[5] The validity of these correlations is supported by analysis which shows that one hundred per cent of the 24 most complex subjects on SIM JUDGE, but only seventy-seven per cent of the 26 most simple, had heard of the demonstrations; and that ninety-six per cent of the 33 most complex and seventy-four per cent of the 31 most simple subjects on COMPLEX had heard.[6] The correlation levels obtained remain quite constant in politically interested and non-interested samples (at smaller confidence levels with smaller N size). These correlations are of somewhat smaller magnitude in the female sample, and are of greater magnitude in the male sample.[7]

These three sets of results, taken as a whole, are difficult to interpret. They support the conclusion that those who are judged complex

on SIM JUDGE are more active information gatherers. Those who are judged to be simple on SCALE USAGE are more likely to claim to have learned from media, and to have tried to learn in a specific instance from media, about the campaign than those who are more complex according to this measure. But the final (Separatiste demonstration) set of correlations indicate that those who are complex on either of the core complexity measures are more likely to have actually gathered a specific piece of election information. These results can perhaps be taken as evidence that politically dimensionally complex subjects (on all measures) are actually more likely to pay attention to the media but, because of greater prior knowledge or other reasons, are sometimes less likely to feel that they have learned anything during the campaign. This conclusion applies particularly to those who are judged to be complex on the SCALE USAGE measure.

Political and Campaign Discussion and Political Complexity

Regardless of their sex or level of interest, politically dimensionally complex subjects discuss politics and the campaign with friends and family to a greater extent than their more simple counterparts.

A scale was formed from items asking subjects how much they discussed the election with friends and family.[9] About twenty-five per cent of the subjects were ascertained to have discussed the election a great deal with both family and friends; about fifteen per cent of the subjects never or hardly ever discussed the election with peers.

Correlational results shown in Table XVI show that SIM JUDGE

(and COMPLEX) complexity level covaries closely enough with discussion propensity in a positive direction so that significant correlations result. Positive but not significant correlations are a measure of the relationship between SCALE USAGE measured complexity and campaign discussion level. Difference in means tests support these findings.[10] Among interested, and interested male, subjects the magnitude of these correlations persists along with satisfactory significance levels. The same basic pattern of correlations applies in the male and female subsamples.[11] Higher discussants are also found to be more likely to be generally politically knowledgeable.[12]

It was our intent to explore campaign learning in this chapter. But whether the results presented in this section mean that more complex subjects spend more effort learning, or teaching, through discussion with others is difficult to ascertain since we have no knowledge of subjects' part in discussion activity or of whether or not they tried to convince others through these discussions. It seems possible that these results indicate that politically dimensionally complex persons are more likely to be opinion leaders and influencers than their simple counterparts. This speculative conclusion may be applied regardless of how complexity is measured. It is supported by the work of Kessel, who in an article, "Cognitive Dimensions and Political Activity," found fairly strong positive relationships between his political informational variables (two of which resemble our notion of political dimensional complexity) and opinion leadership.[13]

Receipt of Candidate Contact and Political Dimensional Complexity

One would expect that the distribution of personal and printed contact by parties and candidates would be either random or comprehensive enough so that each individual would be subject to similar amounts of contact. But scores on a scale comprising items which ask subjects about their receipt of four types of communication show that subjects acknowledge receipt of quite varying amounts of campaign contact.[14] Sixteen per cent of subjects claim to have received no contact from parties or candidates, another sixty-four per cent acknowledge contact from one or two sources, and about eighteen claim receipt from three or four sources.

Political dimensional complexity as measured by each of the three major indicants correlates significantly and positively with level of acknowledgement of candidate contact. Kendall rank order correlations are judged significant in all three cases. A Pearson product-moment correlation is significant only in the case of the SCALE USAGE complexity-contact acknowledgement relationship.[15]

Political interest level relates very significantly to the amount of contact acknowledgement but in the very interested subsample of 216 subjects, Pearson correlations between COMPLEX and SCALE USAGE and contact receipt acknowledgement remain significant.[16] In the low interested subsample nonsignificant negative correlations exist between measures of political complexity and receipt of campaign information. In the male subsample all three complexity level indicants correlate positively and

significantly with campaign contact, in the female sample only COMPLEX correlates significantly.[17] These relationships are not paralleled by the existence of relationships between general knowledge and campaign contact. Only party issue position assessment ability closely predicts receipt of candidate contact.

The overall pattern of correlations is interesting, especially given the greater mean receipt of contact of females (because, we presume, women are in the home more).[18] Interpretively, we feel that one cannot assume that complex subjects actually do receive (in a physical sense) more contact from parties and candidates. Rather, we think, we must begin with the assumption that all subjects actually do receive as much actual contact and conclude that more complex subjects accept and are aware of more of these communications. For example, more politically complex people are probably more likely to note printed candidate contact received in the mail. These results provide some support for the view that more politically dimensional complex persons strive harder to gather the information relevant to the campaign; or that is, actually do track information along their more numerous political judgement dimensions.

Summary

The results in the latter two sections indicate that those who are more politically dimensionally complex have a greater tendency than less complex persons to participate in two election campaign information gathering activities. The three sets of results presented in the first section are somewhat ambiguous but point to essentially the same conclusion.

The investigation of this chapter, then, seems to indicate that those with more political judgement or meaning giving dimensions participate in more activity during an election campaign in order to insure the intake of the greater amounts of political information considered to be relevant. One would have to introduce more stringent research controls, however, before he could safely conclude that this is because information processing dimensions have a compelling "need" for fulfillment.

CHAPTER VIII, FOOTNOTES

[1] Subjects were asked if they had learned about the campaign by watching T.V., listening to radio or reading the newspaper. Media learning scores ran from 0 (nothing learned) to 3 (learned through all three sources); 23 per cent of subjects learned through three sources, 10 per cent of subjects through none. Mean scores indicated that subjects on the average learned from closer to two than one sources. The scale Guttman scaled with a C. of R. of .795. Sixty-two per cent of subjects consider T.V. their most reliable media source, 28 per cent consider newspaper most reliable and 10.4 per cent consider radio most reliable. No differences exist in the sources found most reliable by dimensionally complex and simple subjects.

[2] In the female sample the Pearson R between learning and SIM JUDGE is .1188, in the male sample it is -.0103.

[3] Political interest and media learning correlate with R of .1996 (significant at .001 confidence level). In the interested sample (N = 215) SIM JUDGE and learning correlate with an R of .0371; in the non-interested sample (N = 97) this R is .0178.

[4] Media learning correlates .1532 (significant at .003) with issue naming ability, .1801 (significant at .009) with prediction ability, .1587 (significant at .002) with assessment accuracy and .1872 (significant at .001) with concept awareness.

[5] A chi-square of 2.75-significant at the .09 confidence level-was a measure of COMPLEX-separatiste demonstration awareness association.

[6] As well, 92 per cent of 38 most complex SCALE USAGE had heard of the demonstration while 77 per cent of 31 most simple SCALE USAGE had heard.

[7] The correlations between political dimensional complexity and whether or not subjects heard of the Separatiste demonstration when controls on political interest and sex are introduced are given below. Significance levels in brackets.

	Interested (N = 81)		Not Interested (N = 32)	
COMPLEX	.1755	(.06)	.2254	(.10)
SIM JUDGE	.1240	(.13)	.2163	(.12)
SCALE USAGE	.1682	(.07)	.1611	(.19)

	Male (N = 55)	Female (N = 58)
COMPLEX	.3167 (.009)	.1225 (.18)
SIM JUDGE	-.3195 (.009)	.0504 (.35)
SCALE USAGE	.2246 (.05)	-.1482 (.13)

[8] Where 2 means yes watched debate and 1 means no, did not, the complexity-debate watching correlations when interest is controlled are:

	Politically Interested (N = 150)	Not Politically Interested (N = 64)
COMPLEX	.0034	.0644
SCALE USAGE	-.0869	-.0805
SIM JUDGE	.0708	.1889 (.05)

[9] This scale Guttman scaled with a coefficient of reproducibility of .9209.

[10] Mean discussion levels and t-scores for different complexity levels are as follows:

77 low SIM JUDGE $\bar{m}$ = 1.89
64 high SIM JUDGE $\bar{m}$ = 2.57 t = 4.86 (.0005)
55 low SCALE USAGE $\bar{m}$ = 2.03
53 high SCALE USAGE $\bar{m}$ = 2.30

[11] The political discussion-complexity correlations are as follows in these different subgroups of the population. Significance levels are bracketed. Pearson R's

	Interested (N = 206)	Not Interested (N = 91)
COMPLEX	.1080 (.06)	.1159 (.14)
SCALE USAGE	.0333 (.32)	.1028 (.16)
SIM JUDGE	.1384 (.02)	.0945 (.19)

	Male (N = 130)	Female (N = 167)
COMPLEX	.1372 (.06)	.1622 (.02)
SCALE USAGE	.0120 (.44)	.0863 (.13)
SIM JUDGE	.2057 (.01)	.1753 (.01)

	Male Interested (N = 89)
COMPLEX	.1373 (.10)
SCALE USAGE	.0156 (.44)
SIM JUDGE	.1981 (.03)

[12] Political discussion propensity correlates .1602 (significant at .02 level) with predictive ability, .1032 (significant at .04) with assessment accuracy, .1916 (significant at .001) with issue awareness, and -.2382 (significant at .001) with concept awareness.

[13] J.H. Kessel, "Cognitive Dimensions and Political Activity," Public Opinion Quarterly, 29 (Fall, 1965), pp. 377-389. Kessel's notion of opinion leadership was based on whether or not subjects tried to convince others in political discussion and took at least equal part in political discussion. Kessel's cognitive dimensions were (1) information support for views, (2) differential ability to discriminate between

distinct components of information, (3) logical consistency in linkage of information components, and (4) time or future span of political concerns. We take the first two as getting at somewhat the same broad area of personal differences as our complexity constructs.

[14] Subjects were asked if they had been contacted (a) personally by candidates, (b) personally by party workers, (c) by literature through the mails, or (d) by literature delivered to the door. The four item scale Guttman scaled with a coefficient of reproducibility of .808. Sixty per cent received mail contact, 58 per cent house delivered, 32 per cent were contacted by party workers, 15 per cent were contacted by candidates.

[15] The mean complexity levels of all three measures are greater in highly contacted portions of the sample but not significantly so.

[16] The campaign contact-complexity correlations in the sub-groups are as follows. Significance levels are in brackets. Pearson R's

	Interested (N = 209)		Not Interested (N = 98)	
COMPLEX	.1208	(.04)	-.0579	(.28)
SCALE USAGE	.1262	(.03)	-.0348	(.36)
SIM JUDGE	.0741	(.14)	-.0639	(.26)

	Men (N = 139)		Women (N = 168)	
COMPLEX	.1495	(.04)	.1622	(.02)
SCALE USAGE	.1086	(.10)	.0863	(.13)
SIM JUDGE	.1399	(.05)	.0305	(.35)

	Interested Men (N = 93)	
COMPLEX	.2153	(.02)
SCALE USAGE	.1590	(.06)
SIM JUDGE	.1895	(.03)

[17] See the tables in the above footnote.

[18] The mean receipt of contact level of females is 1.72, of males 1.60.

CHAPTER IX

POLITICAL COMPLEXITY AND ATTITUDE CHANGE

One potential research function of a political dimensional or integrative complexity construct is as a variable in research investigating attitude change. The large amount of research with attitude change has included comparatively little relating individual difference cognitive or structural variables to attitude change threshold or propensity. The usage of a cognitive complexity construct as a dependent variable should allow insights into general attitude change (and changeability) and help to fill this void; the usage of specific political complexity constructs should help the student of political attitude change in his research. This final short chapter tests, with a somewhat ambiguous or impure indicant of propensity for political attitude change and a lack of controls, a hypothesis of the type which future research will probably more carefully test.

Preliminary experimental work by others relating general attitude change threshold to cognitive complexity, when taken as a whole, points to the existence of a non-simple relationship. Two early researchers in the area, Lundy and Berkowitz, theorize that the (dimensionally) complex system which ". . . distinguishes among a greater number of different aspects of people or situations . . ." will be more likely to be

receptive of new ideas or pieces of information than a less complex system.[1] That is, there will be a greater probability of new ideas or pieces of information being relevant to a system containing more meaning giving dimensions, or constructs as these authors call them. And if a new idea or piece of information is received then it may be ". . . integrated into a person's construct system to result in attitude change."[2] Lundy and Berkowitz, then, theorize the existence of a probabilistic law relating dimensional complexity and attitude change--the more dimensionally complex a person is, the greater the probability is that new pieces of information will be relevant and thus selected, and thus the greater the probability that attitude change may take place. The empirical results of these researchers, however, only conclusively support the hypothesis that cognitively simple persons when exposed to nonauthoritative communications will show less attitude change than will more complex subjects exposed to the same communication.[3]

Schroder, Driver and Streufert arrive at the view that the salience of a persuasive communication will be an important factor in the attitude change effects on simple and complex people.[4] After citing experiments by Suedfeld (1964), Crutchfield (1955), Janicki (1964) and Streufert (1966), Schroder *et al*. stress the need for broadening attitude change formulations so that interaction effects involving situational variables are taken into account. They point out that the inconsistent findings in the studies reviewed suggest that people with simple structures, who ordinarily do not receive (do reject) much new information and are not normally of high attitude change threshold, may in some sense be overwhelmed by a highly salient communication.[5] If this occurs it

may result in a total adoption of the new ideas presented in the (salient) communication and a categorical attitude change.

The careful theorizing and research of others serves to emphasize the fact that the research initiated here steps beyond where careful and controlled research in this area should, at this stage of development, be taking place. But nonexperimental hypothesis testing at a macroistic level can give us an idea of whether political dimensional complexity-political attitude change threshold associations or relationships of strength do exist.

Vote Consistency and Attitude Change Rigidity

Here we test an hypothesis with its basis in the theoretical formulation of Lundy and Berkowitz. Political or vote relevant attitude change rigidity-flexibility or attitude change threshold we take to be indicated by the degree of consistency in subject's party vote choice in the three most recent (1963, 1965, 1968) Federal elections. It is hypothesized that more complex persons will be more likely to have been among those to have changed their vote from one party to another at least once. To restate the reasoning, we expect this because complex persons, with more information processing dimensions to track political information along, should be more sensitive to changes in situations and to new information and thus more likely to have changed election relevant attitudes, and thus should be more likely to be among those who have changed vote preference from election to election.[6]

Of 143 subjects who report a choice of vote in all three

elections, 88 (61.5 per cent) report having voted for the same party in all elections.[7] Only two voted for different parties in each election, the other 53 were one-time vote changers.[8] As is shown in Table XVII, in the total sample and in male, female, and very interested subsamples the SCALE USAGE complexity distribution covaries positively with the tendency to have changed vote preferences at least once. These correlations are supported by analysis which reveals that forty-eight per cent of 50 complex (on SCALE USAGE) subjects had switched allegiances at least once while thirty-two per cent of 50 simple (on SCALE USAGE) subjects had switched from one party to another. Only in the male sample is a substantial correlation between SIM JUDGE measured complexity and vote consistency revealed. This correlation is not significant but it is in a direction which indicates some tendency for men who are measured more complex on SIM JUDGE to be more consistent in the way they vote from election to election. (Evidence in this same direction from a different source is provided by a significant correlation which indicates that the SIM JUDGE distribution varies positively with a tendency to be very certain about the choice of who to vote for in the period preceding the election--R = .1073, significant at .047 confidence level. More complex persons might be expected to remain open to new information and to be uncertain of vote choice throughout the election campaign.)

Using the SCALE USAGE measure of political dimensional complexity there is a good deal of support for the acceptance of the research hypothesis. Persons judged to be more complex on this measure are more flexible in their voting choice habits than those judged less complex. And this could be a result of the greater tendency of the complex

TABLE XVII

CORRELATIONS BETWEEN VOTE CONSISTENCY AND POLITICAL DIMENSIONAL COMPLEXITY. PEARSON R'S, N VARIES

Complexity Indicants	Total (N = 163)	Men (N = 67)	Women (N = 76)	Politically Interested (N = 109)
COMPLEX	-.0733	.0251	-.1663	-.0837
SCALE USAGE	-.1751**	-.1207	-.2274**	-.1694**
SIM JUDGE	.0438	.1463	-.0497	.0199

Significance Levels: **-.05 level of confidence; *-.10 level of confidence.

person's information processing systems to accept new units of information which, in turn, results in their vote relevant attitude structures being more open to change. Using the SIM JUDGE measure there is some support for the rejection of the research hypothesis in male samples, but generally a variance in voting consistency is not predicted by this measure of political dimensional complexity. Overall, the hypothesis might have been said to have been more successfully confirmed if the SIM JUDGE measure, the measure we have cast as the applied information processing complexity measure,rather than the SCALE USAGE measure had related to vote flexibility. As well, our knowledge about the politically uninvolved status of some persons who are complex on SCALE USAGE suggests that their voting flexibility may, although political interest controls have indicated otherwise to some extent, be the result of certain third factors such as lack of political interest. The ambiguity of results underlines the need for more carefully controlled research in this area.

CHAPTER IX, FOOTNOTES

[1] R.M. Lundy and L. Berkowitz, "Cognitive Complexity and Assimilative Projection in Attitude Change," _Journal of Abnormal and Social Psychology_, 55 (1957), pp. 34-37. We take the cognitive complexity referred to by these authors to parallel our notion of dimensional complexity.

[2] _Ibid_., p. 34.

[3] _Ibid_., p. 37.

[4] H.M. Schroder, M.J. Driver and S. Streufert, _Human Information Processing_ (New York: Holt, Rinehart and Winston, Inc., 1967), pp. 137-139.

[5] _Ibid_., p. 139.

[6] Assuming, of course, that level of political dimensional complexity was consistent during the time span of the three elections.

[7] Ineligible voters (in any of the three elections), those who didn't remember how they had voted, those who didn't know how they would vote in the upcoming election (among two interview waves), and those who did not vote or did not plan to vote were all excluded from calculations.

[8] Our calculations did not note the case where a party was switched away from (in the middle election) and back to in the final election. Such instances if they occurred were counted as one vote change.

CHAPTER X

CONCLUSION

This thesis has contributed what is to our knowledge a first exercise in this form of cognitive political psychology. The researcher is confident that it represents a valuable contribution. An area of basic differences in the way people process political information has been pointed to. Doing so, we feel, is tantamount to having pinpointed an important area of differences in the way men think about political things. The thesis as a whole can be taken as representing a case for the reality and importance of these differences.

The importance of these stable characteristic differences has been underlined in the second chapter through an exposition of their place of influence in the system which processes information preceding the making of political decisions. Practical measures of the construct which explain these differences--political dimensional complexity--have been developed in Chapter IV. Following this, a series of chapters have been devoted to exploration of the political personality and political behavior correlates of political dimensional complexity. The results reported in these chapters serve as evidence of the meaningfulness of the information processing differences which we have hypothesized to exist. The exercise of the final chapter serves to indicate one area of usefulness of a construct which explains and measures the political

information processing abilities of individuals.

The framework developed in the second chapter provides, we think, a quite accurate representation of the process whereby political concepts are given meaning. While the notion of "dimension" is an analytic one, it does have face validity as an explanatory construct. And it seems a sound idea to focus upon the plurality of dimensions along which meaning is given to political concepts as an area where important differences exist. We have focused on the dimension notion in developing the political dimensional complexity construct.

In one way, the framework presented in Chapter II is problematic. The notion of political dimensional complexity has not been integrated with the idea that individuals have hierarchies of values in a way that is completely satisfactory to the researcher. Indeed, information processing theory in general does not mesh comfortably with a value hierarchy perspective nor with the idea that attitudes have affective and cognitive components. The field of political psychology and the field of attitude research awaits further thinking along the lines of Shapiro's which would clarify the place of the valuing (prizing) and evaluating (appraising) activities which are involved in political judgement and evaluation.

The semantic differential has proven useful as a device which allows insight into the structure of the meaning which individuals attach to concepts. In Chapter III semantic differential data was analyzed in two different ways in order to derive measures of the two aspects

which, according to our construction, are involved in political dimensional complexity. Three scales, which measure the differences in information processing ability which we hypothesize to exist, were arrived at from these measures.

In the second part of the thesis a task which was secondary to the primary task of reporting the correlates of political complexity was carried on in an attempt to describe differences in the types of complexity measured by the two core indicants--SCALE USAGE and SIM JUDGE. It is unfortunate that this course was necessary in that it clouded the reporting of the correlation results. As was said in Chapter IV, a less ambiguous reporting of results would have been possible if only the overall measure had been used as the complexity independent variable. But one of the main tasks of the thesis was to develop and explore measures of political dimensional complexity. Certainly, the insights provided into the differences in the complexity measured by SCALE USAGE and SIM JUDGE have been valuable and will aid the researcher who uses these measures or adapted versions of them in the future.

The differences between SIM JUDGE and SCALE USAGE were not described as concretely as the researcher would have liked. A good deal more research would be necessary to establish with an assurity what these differences are. Our problems in this regard point to the perplexing intricacy of the whole cognitive complexity measurement task; as others such as Vannoy have shown, seemingly similar measures may measure quite different aspects or types of cognitive complexity. In

retrospect, the decision to focus only on political dimensional complexity and not on integrative complexity in this project seems to have been a good one.

Some very significant descriptive findings were uncovered when the correlates of political dimensional complexity were investigated. The researcher sees the number of significant associations found to exist as good evidence of the fact that a very real area of differences centers around the political dimensional complexity notion. The correlations reported in these chapters show that background variables affect political dimensional complexity level (Chapter V), and that political dimensional complexity affects political information processing abilities (Chapter VI), political orientations and attitudes (Chapter VII), and political and election campaign activity (Chapter VIII). Thus, there is some evidence that differences in the way political men think and process information about political objects influences their political orientations, behavior and "problem solving" ability. As well, there is evidence that differences in the way individuals process political information may be the result of age, sex, education or social and economic status factors.

The number and type of dependent variables which were at the researcher's disposal was disappointing. Unfortunately the survey from which the valuable semantic differential data were drawn was not designed with this research project in mind. In particular, extensive validation of the political dimensional complexity constructs could

not be carried out. The importance of the constructs warrants a good deal more validational research; in fact, with proper dependent variable data an entire thesis might justifiably be devoted to such a task. If this researcher does further work with the construct, validational efforts will be undertaken using constructs which measure, for example, intelligence, reasoning ability and authoritarianism. At the same time other measures of general complexity will be used. Generally speaking, in further research this student would give first priority to investigation of the general personality correlates of political dimensional complexity.

Political psychological research of this type will probably not gain complete credibility until the general theory of cognitive complexity (and its constructs) gains wider acceptance as a valid theory of the thinking processes of men. It is hoped that at the very least this exploratory research undertaking will give future political complexity researchers confidence that they are investigating the nature and correlates of a very significant political psychological variable.

APPENDIX A

THE COMPLEXITY MEASURES IN THE FULL SAMPLE

In this appendix are presented results of the investigation of the components of the complexity measures used in the thesis and certain findings with regard to these measures. The tables presented parallel those presented in Chapter III.

TABLE XVIII

CORRELATIONS BETWEEN FOUR CORE COMPONENT INDICES OF POLITICAL DIMENSIONAL COMPLEXITY. PEARSON R'S, FULL SAMPLE (N = 318)

	1	2	3	4
Number of Factors (1) Adjective Pair Use Eigenvalues gt. .90	1.000			
% of Tot. Var. (2) Explained-First Unrotated Factor Adjective Pr. Use	-.710	1.000		
Number of Factors (3) Distance Judgement	.418	-.550	1.000	
% of Tot. Var. (4) Explained-First Unrotated Factor Distance Judgement	-.197	.271	-.693	1.000

Note: The correlations are significant at the .001 level of confidence.

TABLE XIX

FACTOR LOADINGS. RESULTS OF FACTOR ANALYSIS OF CORRELATIONS BETWEEN FOUR CORE COMPONENT MEASURES OF POLITICAL DIMENSIONAL COMPLEXITY FOR THE FULL SAMPLE (N = 318)

	Unrotated Axes Factors			Varimax Rotated Factors			Oblique Pattern Matrix Factors	
	1	2	h^2	1	2	h^2	1	2
(1) No. of Factors Adj. Pr. Use Eig. gt. .90	.750	.541	.856	.919	-.106	.856	1.0110	-.3247
(2) % of Tot. Var. Exp. First Unrotated Factor Adj. Pr. Use	-.826	-.413	.853	-.889	.251	.853	-1.0130	.4739
(3) No. of Factors Distance Judgement Eig. gt. 1.00	.859	-.345	.857	.402	-.834	.857	.6279	-.9882
(4) % of Tot. Var. Exp. First Unrotated Factor Dist. Judgement	-.673	.670	.901	-.046	.948	.901	-.2730	1.0292
% of Total Variance	66.6	22.0	88.6	48.2	40.8	89.0	Corr. Between Oblique Primary Factors = -.4138	

TABLE XX

VALIDATIONAL CORRELATIONS BETWEEN THREE CORE MEASURES OF POLITICAL DIMENSIONAL COMPLEXITY AND CRUDE COMPLEXITY MEASURES DERIVED FROM THE SEMANTIC DIFFERENTIAL. PEARSON R'S, N = 318

	Middle Checking	Discriminant Checking
COMPLEX	-.3375^{+}	.1682^{+}
SCALE USAGE	-.0720	.1102**
SIM JUDGE	-.4700^{+}	.1667^{+}

Significance Levels: **-.01 level of confidence; $^{+}$-.001 level of confidence.

TABLE XXI

MEANS, MEDIANS, RELIABILITIES, SKEWNESS FOR THREE POLITICAL DIMENSIONAL COMPLEXITY MEASURES IN THE FULL SAMPLE (N = 319)

Complexity Indicants	Mean	Median	Guttman Scaled C or R	C of S	Skewness	Range
COMPLEX	4.884	4.925	.6803	.1553	.035	1 to 9
SCALE USAGE	2.987	2.989	.7962	.4196	.007	1 to 5
SIM JUDGE	1.897	1.836	.6897	.2355	.101	0 to 4

TABLE XXII

CORRELATIONS BETWEEN THREE CORE POLITICAL DIMENSIONAL COMPLEXITY MEASURES, FULL SAMPLE (N = 319)

	COMPLEX	SIM JUDGE	SCALE USAGE
COMPLEX			
SIM JUDGE	.8473		
SCALE USAGE	.8123	.3785	

APPENDIX B

POLITICAL ACTIVITY AND POLITICAL DIMENSIONAL COMPLEXITY

Tendency to Vote and Political Dimensional Complexity

The correlations found to exist between the different indicants of political dimensional complexity and tendency to have voted in the four Provincial and Federal elections prior to the one under study basically confirm the relationships found to exist between complexity and level of political interest in Chapter VI.[1]

Among eligible subjects the tendency to have voted in these elections covaries positively with level of political dimensional complexity as measured by SIM JUDGE, but downwards with rising levels of political dimensional complexity as measured by SCALE USAGE. These results are seen in Table XXIII. The SCALE USAGE-non voter covariance is of equal strength in male and female samples and is particularly strong in the politically interested subsample. The idea that the subject with unapplied ability for complex information processing is less interested and involved in politics is supported. The positive SIM JUDGE-voter correlation is of greater magnitude in the female than male sample. Among women, level of applied political dimensional complexity is a good indicator of tendency to vote, just as it predicts (or is predicted by) their political interest levels.

Campaign Activity and Party Membership

Edmonton Centre subjects were asked if they had given money to a candidate, attended a candidate nomination meeting or worked on a candidate's campaign during the 1968 election campaign. Thirty-one subjects in the entire population had done at least one of these things.

About equal proportions of these thirty-one are in the high, medium and low portions of the SCALE USAGE complexity distribution. On the other hand, a chi square of 5.08 which is significant at the .07 confidence level indicates that campaign activists are of greater political dimensional complexity as measured by SIM JUDGE. Fifteen per cent of the most complex third of the SIM JUDGE distribution, but six per cent of the simple third, is active. The mean activity level of the complex portion of the SIM JUDGE distribution is significantly higher at the .01 confidence level. We speculate that activism probably leads to a political dimensional complexity of the type measured by SIM JUDGE rather than complexity leading to this activism.

Party membership associates with political dimensional complexity in basically the same way as campaign activism. Twenty-six party members were interviewed (8.2 per cent of the sample). Twelve per cent of the most complex 119 or SIM JUDGE were party members, five per cent of the most simple 138 were. The incidence of party membership among high SIM JUDGE complexity subjects was significantly higher. On the other hand, the proportion of high and low SCALE USAGE and COMPLEX scorers among party members varied hardly at all.

TABLE XXIII

CORRELATIONS BETWEEN TENDENCY TO HAVE VOTED IN PREVIOUS ELECTIONS AND POLITICAL DIMENSIONAL COMPLEXITY. PEARSON R'S, N VARIES

Complexity Indicants	Total (N = 244)		Men (N = 113)	Women (N = 131)	Interested (N = 169)
	R	Tau	R	R	R
COMPLEX	.0045	-.0036	-.0287	.0279	-.0173
SCALE USAGE	-.0868*	-.0913**	-.0975	-.0815	-.1175*
SIM JUDGE	.0864*	.0775**	.0384	.1194*	.0753
Middle Scale Checking	-.1748^{+}		-.1764**	-.1346*	-.1651^{+}
Discriminant Scale Checking	.0684		.1005	.0332	.0981

Significance Levels: $^{+}$-.01 level of confidence; **-.05 level of confidence; *-.10 level of confidence.

APPENDIX B, FOOTNOTES

[1] In the four Provincial and Federal elections preceding the one under study, 246 of 316 in our sample had been eligible to vote.

Subjects passed one of the four items each time they had voted in an election. The overall scale Guttman scaled with a C. of R. of .898. Over half of the eligible subjects (130 of 246) had voted in all four elections. The other 47 per cent were quite evenly distributed as to whether they voted in 0, 1, 2 or 3 elections.

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